

Public Comment Sheet

Your input on the recommended changes to the remedy for the Neal's Landfill site is important to U.S. EPA. Comments provided by the public are valuable in helping the U.S. EPA select the final alternative for cleanup.

You may use the space below to write your comments, then fold and mail to the address: comments to Derrick Kimbrough, U.S. EPA Community Involvement Coordinator, at (312) 886-9749. Comments should be postmarked on or before January 20, 1999. Comments may also be sent via E-mail to the following: kimbrough.derrick@epa.gov.

EPA Region 5 Records Ctr.

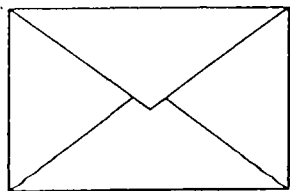


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If you have questions about the comment period, contact Derrick Kimbrough at 312-886-9749 or toll free at 800-621-8431.

Postmarked 2/1 DK

After reviewing the five options for cleanup of Neal's landfill, I would have to say I believe option 4 is the most feasible one. While I do believe that the maximum amount of cleanup should be achieved, and alternative five would do this, I have 2 problems with it. One is the high cost, and I'm afraid funding problems may delay any action. Two, is the short term water monitoring. I believe water poses the highest source of risk, and believe long term monitoring is important. With the removal of "hot spots" and consolidation and capping of lesser contaminated soil in Alternative four, I believe a ~~sig~~ sufficient reduction in risk to exposure can be achieved. It can also be done at a reasonable price. Finally, while I believe the long term water monitoring is very important, I believe it is also important to improve water treatment facilities near the springs. I do not believe the facilities currently in place are sufficient. These are the reasons I believe alternative four is the best option for cleanup of this site.



Name

Lee Christenson

Affiliation

Indiana University SPEA student

Address

545 Lava Way Apt. D

City

Bloomington, IN.

State

IN.

Zip

47404



Public Comment Sheet

new 1/5/99
pimon 12/30/98

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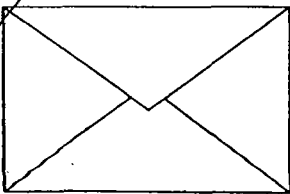
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I prefer alternative 5 because it best meets Criteria #1 + #2, but, Criteria #7 must be considered, therefore, I agree with alternative 4 as the best solution at this time.

In the near future, there should be some serious consideration of using a mobile thermal treatment ^{unit} for the material that will be consolidated on-site. Mobile thermal treatment units are available, have been used at other Superfund sites and global (world sites) and CBS/Westinghouse has the ability to secure and operate a unit on-site, not only at NLF, but also at the Henn Han landfill site.

As for water treatment, CBS will need to expand the existing plant; they need to lower the "collection pipe" in the south spring at least 2 feet to capture the existing "pass" by-pass "that's occurring from this area. Sediments in Conrad's Branch and Rockland Creek will also have to be removed, one more time. Fish samples will also have to be collected and analyzed to determine the effectiveness of the cleanup (some control) and water plant operations. The effect of the quarry operation to the east of NLF needs to be evaluated...



Name Dennis Williamson (12/29/98)
Affiliation Concerned citizen of Monroe County.
Address 5231 TERRY CT.
City BLOOMINGTON
State INDIANA Zip 47404

→ Will the "consolidated area" be secure due to all the "rock blasting" in the area?
Will the "Kaust" rock basin leak under the RCRA cap ???

Public Comment Sheet

Nov 11/5/98
Pimon 12/30/98

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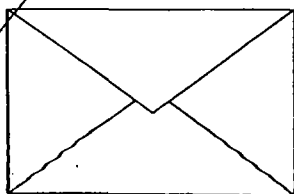
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Affiliation Concerned citizen of Monroe County
Address 5231 TERRY CT.
City BLOOMINGTON
State INDIANA Zip 47404

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Will the "Kaist" rock basin leak under the RCRA cap ???

Public Comment Sheet

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2/2/99 (10)

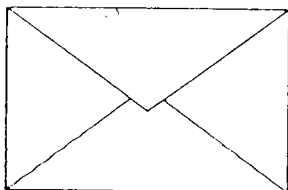
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I feel that alternative 5 is the best remedy for Neal's landfill. This is the best choice because I feel this alternative will best "solve" the problem, or at least make the areas surrounding the landfill the least harmful to all the living beings exposed to the toxins.

However I am concerned about how the contaminated soil will be moved to another site for incineration. I also feel that the ten inch soil cover is not a sufficient way to keep the rest of the site from leaking. I feel that the subtitle C compliant cap should be used for the remaining soil left at the site. I also feel the groundwater monitoring plan that is developed should be long-term. It my mind but to the site I observed the water removal method it seemed to be sucking. It had been raining the day I visited the site and water overflow was an evident problem. The current pipe system removing the water from the site was overflowing and contaminated water was flowing with surface water off of the site.



Name SHANICA CARR
Affiliation _____
Address 3079 North Dunn Street
City Bloomington
State IN Zip 47408

Public Comment Sheet

T3
2/2/99

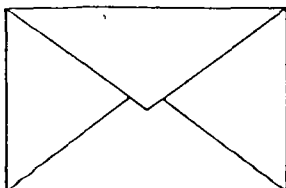
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postmarked 2/2 

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It is my opinion that Neal's Landfill is a risk to the Environment. With no caps covering the landfill, surface water is allowed to mix with the contaminants which eventually exits the landfill (via Five springs) into the watershed - more importantly into an environment with farms and children present to the risk. It is in my opinion to recommend Alternative Four clean-up to Neal's Landfill. Alternative Four will be very successful since the "Excavation of 'hot spots' greater than 500ppm PCBs with off-site disposal, consolidation of landfill material to the center portion of the landfill, and placement of a RCRA Subtitle C complicant cap over the reduced landfill surface." This alternative will reduce the contaminated water flow exiting Neal's Landfill and will be a step forward in helping to re-establish wildlife on the site.



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Public Comment Sheet

73
2/1/99

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postmarked 2/2 DK

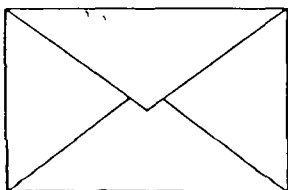
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After reviewing the five options and going to visit Neal's Landfill, I feel that the best option for the EPA is option 5. Option 5 is the best proposed plan because it excavates the entire landfill. There are a number of issues that need to be dealt with, that can only be fixed by using option 5. First, there is water flowing underneath the landfill that gets contaminated with PCBs. There is a water treatment plant present at the landfill, but it doesn't treat all of the water. In fact, when I was there, the water was flowing fast and the treatment plant was only catching a very small portion. There is still a lot of contaminated water going out into the river.

Secondly, there are many houses surrounding the landfill that can be potentially affected. Everyone of the houses uses water from wells that have never been tested and have the potential to be affected. There is also a farm on the contaminated land with people living there. Cows graze on the land and drink from the water that is contaminated. These cows will later be used for meat for people to consume.

Lastly, there are animals living in and around the landfill. Some of them burrow into the ground and they could possibly dig into the contaminated areas.

Using option 4 would not solve ~~an~~ all of these problems because there would still be contaminated areas that could affect the water, animals, and humans.



Name Kristin Green
Affiliation Student - Indiana University
Address 1600 N. Jordan Avenue
City Bloomington
State IN Zip 47406

Public Comment Sheet

T3
2/1/99

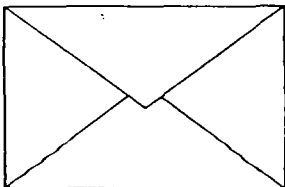
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Postmarked 2/2

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Neals landfill must be appropriately cleaned up to insure the protection of human health and the environment. In my opinion, the only way to comply with the first criteria is to address the issues of water treatment and sediment removal. I feel that simply focusing on source control is not efficient. Nevertheless, out of the five recommended changes to the remedy for Neal's landfill I would have to agree with the decision made by IDEM and the EPA. The main reasons behind my opinion include the fact that alternative 4 meets all federal and state statutes, and its long-term effectiveness and permanence. Most importantly, however, is the consolidation of ~~of~~ portions of the landfill that are subjected to backflooding to the center of the landfill. This consolidation minimizes the transport of PCB's through the groundwater. Alternative 5 would be my second choice simply because the volume of material to be excavated increases from approximately 20,000 cubic yards to 320,000 cubic yards but the cost keeps it from being my first option.



Name Terence A. Holt
Affiliation Indiana University - SPEA
Address 10th Street
City Bloomington
State Indiana Zip _____

Public Comment Sheet

73
2/1/99

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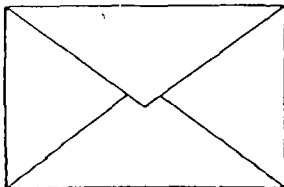
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postmarked 2/2 JK

On Jan. 23, 1999 I attended the meeting in regard to Neal's Landfill. The presenter proposed five alternatives ranging from no action to total excavation. Total excavation, which is alternative #5 would be the ideal choice considering the fact that Bloomington sits on top of limestone. Therefore, any chemical leakage through the limestone into the soil, ground water, and other waterways such as caves is very feasible. Further more, total excavation can disrupt the PCB containers and cause for more leakage into the air and ground. Not only that but this would be like dumping Bloomington's problem onto some other town. Alternative one and two is not an option for this site. There are ecological and human health problems caused by the PCB's in Neal's Landfill, therefore no action or just putting compliant cap over the site would solve the problem. Alternative four takes a step further toward this issue than does Alternative three, because of that I would have to choose number four. However, someone at the meeting ask the panel if they had considered other plans that had been used in similar situations, but at different sites. The answer was vague, but if other sites have contain the situation, then this panel should take some time to look at those plans.

At this meeting I can see that the panel was getting frustrated with the towns people that made random comments. But, you must take into consideration that they have lived with this problem for many years and still no result(s) can be seen. I believe that this panel should have handle this situation in a more professional manner.



Name Suchana Kullayanavisut

Affiliation Student at Indiana University

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City Bloomington

State IN

Zip 47401

Public Comment Sheet

13
2/1/99

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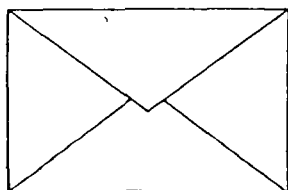
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After reading over the four alternatives and comparing the criteria for each, I would choose alternative four. Alternative 4 Excavation of 'Hot Spots' Greater than 500 ppm PCBs with Off-site Disposal, Consolidation of Landfill Material to the Center Portion of the Landfill, and Placement of a RCRA Subtitle C Compliant Cap over the Reduced Landfill Surface, seems to best fit the nine criteria while spending/costing a reasonable amount of money compared with the other alternatives.

Alternative four meets the criteria for long-term effectiveness and permanence, which is an important factor for the future. I believe that after comparing the alternatives and evaluating the criteria, alternative four outweighs the other alternatives. Alternative four covers all the aspects of the landfill in order to reduce the overall dangers.

The only questions I have about alternative four is where is the material taken to and how dangerous is transporting hazardous waste. Alternative four is the best alternative all around.



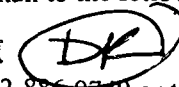
Name Christie Helton
Affiliation Indiana University Student
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State IN Zip 47401

T3
2/1/99

Public Comment Sheet

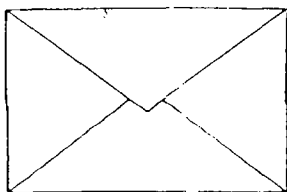
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I am writing these comments in response to the four options proposed by the EPA for Neal's Landfill. My opinion is based on the nine criteria that are used by the EPA to make its proposal: overall protection of human health and the environment, compliance with ARARs, long term effectiveness and permanence, reduction of toxicity, mobility, or volume through treatment, short term effectiveness, implementability, costs, support agency acceptance, and community acceptance. I agree with the EPA that alternative four would be the best choice. The hot spot removal of areas contaminated with greater than 500 ppm PCBs will contribute to the protection of the environment. Also, consolidating parts of the landfill that are exposed to back flooding of groundwater will lessen the number of PCBs released by the landfill. Finally, surface water run-on and run-off will be prevented, air monitoring of the landfill will be required, and a health and safety program will be installed. Alternative four meets most of the nine criteria and is also supported by IDEM. The only issue that none of the options sufficiently addresses is water flow. None of the proposals really has a solution to stop contaminated water from flowing out of the landfill and potentially harming the environment and residents. Hopefully, the EPA choosing this proposal will produce beneficial results.



Name Amy Keckrich
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State IL Zip 47408

Public Comment Sheet

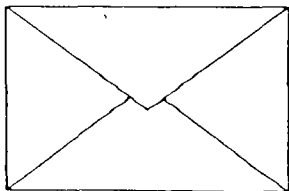
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The PCB contamination problem which the town of Bloomington is faced with is rather frightening. Neal's Landfill is a site which is truly in need of action, and I believe that IDEM's choice of Alternative 4 is a good starting point. But, this plan truly does not meet the needs which the surrounding areas of the site should receive. After a site visit for a Risk Assessment class, I truly see the need for a water treatment plant which can treat a larger water volume. The plant on-site today only meets the needs of a trickling stream, and with high water it collects virtually nothing. From the site the stream runs out to farmland and is in close proximity to residences. Without a larger water treatment plant, all actions in Alternative 4 could be useless. In a rainstorm situation, with increased water flow, what is planned for? Clean groundwater and PCB contaminated runoff and seepage water mix, only furthering the problem. This is where I believe that the local concerns should exist. The jump to Alternative 5 will never be an option, and probably still would not fix the problem. So, as a concerned citizen, I believe that all alternatives could work, but all may need more consideration for runoff water. And all should not be worrying with the exactness of amount of soil cap or amount of soil removed. Something needs to be done, and by lengthening this process is only exposing more PCB's to the surrounding environment.



Name Craig Lugowski
Affiliation Resident - IU Student
Address 211 S. Union
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State IN Zip 47408

T3
7/1/99

Public Comment Sheet

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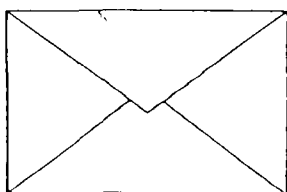
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Dear Mr. Kimbrough,

After visiting the site, Neal's Landfill, I would like to agree with recommendation Alternative 4. The landfill site is close to homes and groundwater could be greatly affected by the site's lack of adequate drainage and waterway protection. Water runs from the landfill and is not properly treated before the stream runs out and reaches Connard's branch and eventually the White River. Connard's branch is effected because it is located directly adjacent to the site and the cattle raised there can in no way avoid consuming at least in part the contaminated water. A more properly placed cap in addition to the removal of some of the contaminated material would greatly alleviate much of the environmental risk to the surrounding houses and also to the wildlife which is present in the area. Alternative 4 addresses these issues as well as the issue of where the removed material would be placed. Human as well as environmental health are both at risk because of the lack of proper precautions taken when the landfill was initially built. Thank you for your interest in my comments.

Sincerely, Beth A. Oliver



Name Beth A. Oliver
Affiliation Indiana University Student
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State IN Zip 47403

T3
2/3/99

Public Comment Sheet

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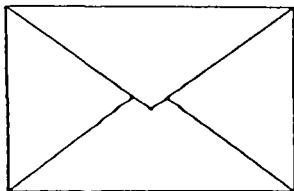
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Derrick Kimbrough,

Recently I attended a public meeting at the Monroe County Library concerning Neal's Landfill and would like to applaud the EPA's efforts of teamwork with our community. Yet, it needs to be pointed out that these 'five alternatives' require further consideration.

'Alternative four', partial excavation, consolidation of low ppm level landfill material, and installation of a compliant cap, the favorable alternative for Westinghouse and EPA is decent but not sufficient. Excavating 'hot spots' greater than 500 ppm should occur, but this material should not be incinerated nor moved to burden yet another town. Immediate and complete action needs to happen in Bloomington. In addition, a subtitle C cap should be installed. Yet the EPA has failed to include a bottom-liner protecting air ground water from these PCBs. Therefore, 'Alternative four' should include all of the above, as well as a sufficient ground liner to protect neighboring water, fish, meat, and humans.

Thank you.



Name

Rose Mody Caron

Affiliation

Concerned Student

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13/1/99

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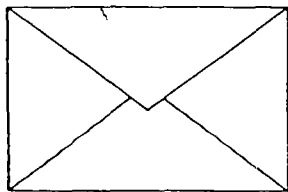
postmark 2/2 TK

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Dear Mr. Kimbrough,

I think the EPA has done a good job addressing the important areas of contamination when they recommended adopting "Alternative 4" removing highly contaminated soil and mineralizing visible capacitors. I agree with, but I don't agree with sampling off site "hot spots". I mean what if PCB levels are b/w 400-500 ppm? Are you just going to consolidate the area or are there other ways of dealing with 'hot spot' contamination of soil within the contour lines.

Also I feel as though I issue of groundwater and surface contaminated run-off should be given more attention. I can see that a study has been proposed, but that just doesn't cut it. [The landfill itself really isn't that high above "sealevel" or the drainage basin below] Water doesn't have that far to travel from leaking through contaminated soil and then moving quickly through holes in the underlying karst to get to wells, streams, and other groundwater outlets. I think water contaminated seepage from on/off site is a bigger issue than thought to be. Oh, and the little water treatment plant at bottom of hill is not the answer.



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Public Comment Sheet

T3
2/2/99

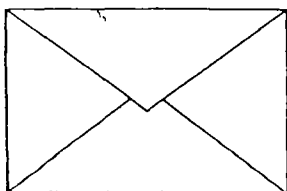
Your input on the recommended changes to the remedy for the Neal's Landfill site is important to U.S. EPA. Comments provided by the public are valuable in helping the U.S. EPA select the final alternative for the site.

You may use the space below to write your comments, then fold and mail to the address on the reverse side or fax your comments to Derrick Kimbrough, U.S. EPA Community Involvement Coordinator, at (312) 353-1155. Comments must be postmarked on or before January 20, 1999. Comments may also be sent via E-mail to the following address: kimbrough.derrick@epa.gov.

If you have questions about the comment period, contact Derrick Kimbrough at 312-886-9749 or toll free at 800-621-8431.

Postmarked
2/2
DK

Excavation of Hot Spots Greater than 500 ppm with PCBs with off-site Disposal Consolidation of Landfill, and Placement of a RCRA Subtitle C Compliant Cap over the reduced landfill surface is the most economical way to make Neal's landfill somewhat acceptable. This solution meets, or comes very close to meeting, all eight criteria. Criteria nine will be fully met after the public comment period is evaluated. Furthermore there needs to be some research on the ground water flow at this site. When I visited this site on Jan-22-99 there was ~~an~~ a rush of ground water coming out from under the landfill into a nearby stream. This stream went directly through a dairy farm. If there is a groundwater problem? and I believe there is. It should be addressed at the same time you do the solid portion of the landfill. I am sure the EPA has many projects, so do this one right, so you are not back in five years doing it again.



Name Hugh Ryan
Affiliation _____
Address 9450 S. Lake Ridge Dr.
City Bloomington IN 47401
State IN Zip 47401

Public Comment Sheet

T3
2/2/99

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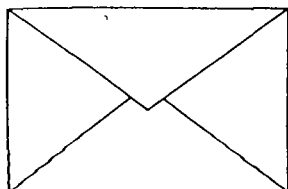
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postmarked 2/2 DK

If you have questions about the comment period, contact Derrick Kimbrough at 312-886-9749 or toll free at 800-621-8431.

The alternative that I feel will improve the hazardous conditions at Neal's Landfill to an acceptable state is alternative 4. Although alternative 5 would ultimately result in a cleaner and safer environment, it has some important flaws. The first is the cost. Both 4 and 5 meet the criteria equally, however 5 costs five times as much. In addition, the time and availability of vehicles to transport 375,000 tons on contaminated Earth is just not available. This ignores the fact that we, as a state, at one time put these toxins in the ground. Transporting this out of state, though tempting, is not fair to those states, especially an entire site of PCBs.

By consolidating the landfill we can downsize as well as protect some of the areas that are prone to have runoff or hold water. We will still have disposed of the hotspots and incinerated any currently leaking capacitors. The cap will allow for regrowth of a healthier ecosystem. The most important aspect of this plan is the reduction in ppm of water flowing away from the site. Biotic life downstream needs protection and should be watched carefully as the current water treatment facility is completely inadequate. Groundwater monitoring should also be closely monitored to protect the people and animals in and around Bloomington. One issue that was not mentioned that should be considered is the continued leaking of PCBs. Should we not install a better impermeable layer beneath this mess?



Name Ashley R. Staples
Affiliation Student - SPEA - Indiana University
Address 310 E. 17th St
City Bloomington
State IN Zip 47408

Public Comment Sheet

13/2/99

Your input on the recommended changes to the remedy for the Neal's Landfill site is important to U.S. EPA. Comments provided by the public are valuable in helping the U.S. EPA select the final alternative for the site.

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If you have questions about the comment period, contact Derrick Kimbrough at 312-886-9749 or toll free at 800-621-8431.

postmarked 2/2 @ DK

To Whom it May Concern:

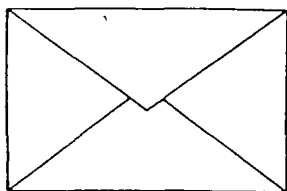
As a member of the Bloomington public, I am compelled to offer my opinion concerning the best remedy for Neal's Landfill. I believe "Alternative 4" is the appropriate choice for our situation.

Excavation of hot spots is absolutely crucial, as these are the areas most likely to cause ground water or surrounding soil contamination. The contour line sampling method would ensure that these high risk areas were identified.

Consolidation of the remaining material in the center of the landfill is also wise, as this would increase the distance between the PCB's and the surrounding human element (homes). The reduction in landfill size would make capping more economically feasible and would allow future monitoring efforts a more narrow focus.

The longterm groundwater monitoring plan is crucial, as well. We must be aware of the inputs and outputs of this ecosystem if we are to prevent contamination of and decrease risk to both human and non-human elements.

Total excavation isn't economically viable, and a simple capping of unconsolidated material is a very temporary fix. "Alternat 4" is the best solution and should be implemented as soon as possible.



Name Matthew A. Smith
Affiliation Indiana University
Address 227 Varsity Ln.
City Bloomington
State IN Zip 47408

Public Comment Sheet

73
1/1/99

Your input on the recommended changes to the remedy for the Neal's Landfill site is important to U.S. EPA. Comments provided by the public are valuable in helping the U.S. EPA select the final alternative for the site.

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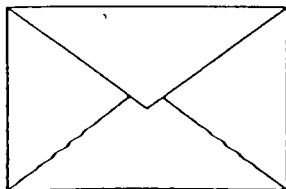
If you have questions about the comment period, contact Derrick Kimbrough at 312-886-9749 or toll free at 800-621-8431.

Derrick,

postmarked 2/2 DK

My name is Chris Stucker and I am a resident in the area of Neal's landfill. I have read the alternatives for fixing the problems at Neal's landfill. I am very concerned about the PCB count that is in the surface and ground water. After looking at all of the EPA's alternatives and their feasibility, I believe that alternative 4 would be most reasonable and best suited for the needs of the area. I am especially happy with the alternatives satisfying the long-term needs that the community has. Monitoring the groundwater is the key due to a proper cleanup. I am worried though that the landfill size will not be what you say it is. It is proposed that the landfill will be shortened to 10 acres. This is very good if it works, but I don't want to see any hazardous areas left behind in non-capped areas due to error. I think that after the landfill area is shortened then a ~~assessment~~ assessment should take place at a later date to make sure no high PCB counts were left behind. Overall, I believe that alternative 4 is very well planned, but I am worried that it may not be carried out successfully. I don't just want any part of the landfill that has high PCB numbers uncovered.

Chris Stucker



Name Chris Stucker

Affiliation _____

Address 3211 E. 10th St. Apt. F

City Bloomington

State IN

Zip 47408

Public Comment Sheet

73
Postmarked
2/2/99
(PK)

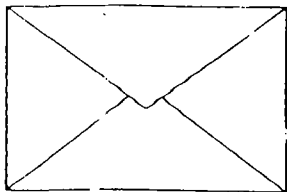
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If you have questions about the comment period, contact Derrick Kimbrough at 312-886-9749 or toll free at 800-621-8431.

I believe alternative #4 is the most viable option for treatment of Neal's Landfill. As opposed to the other 3 alternatives, option #4 calls for appropriate amounts of excavation, disposal, consolidation, capping, and long-term monitoring in the most cost effective way. It might appear at first that alternative #5 would yield the best treatment overall, but alternative #4 appears to be able to produce the same results at a significantly lower total cost. Alternatives 1 through 3 should not be considered due to lack of toxicity reduction and long-term effectiveness. What makes alternative #4 uniquely attractive is the removal of all "hot spots" and sampling, which will lead to consolidation, and in return, a reduction in landfill size to 8 acres.

Although with alternative #4 remediation would occur in drainage waterways outside of the cap, more emphasis and consideration is needed for waterways, groundwater, and PCB mobilization. If consolidation occurs, landfill topography will change, possibly redirecting waterflow. An extremely comprehensive sampling and monitoring system will be needed to track PCB transport via groundwater flow, surface runoff, and backflooding.



Name Matt Weber
Affiliation _____
Address 903 E. 2nd St.
City Bloomington
State IN Zip 47401

73
2/16/99

SUDING

rec'd 2/14/99
[Signature]

Bloomington, IN 47404

February 1, 1999

To whom it may concern:

Upon reviewing the various options concerning Veale landfill, I completely support Alternative 5. Though this option remains the highest in monetary cost, it provides the greatest health & protection and prevents further risks to the environment. Continuing to 'patch' the mistakes made concerning the issue of PCB contamination will lead to further community health risks. Complete removal will rid the area of the contaminating material ensuring future problems will not occur and preventing future costs.

Alternative 5 leaves the least amount of contaminated material and the lowest ppm of that material. Both of these remain crucial to the goals of the clean-up preventing PCB exposure. Unfortunately this plan contains no action toward areas already contaminated, including the natural springs near the landfill. It is critical that a clean-up action be taken to further limit the health risks to both the public and area wildlife. Contamination of the area is a serious

T3
7/11/99

From: "Dovantzis, Konstantinos" <DOVANTK@ttemi.com>
To: "'alcamo.thomas@epamail.epa.gov'" <alcamo.thomas@e...
Date: 2/11/99 3:19pm
Subject: Storage for Neal's LF Waste

As you requested, we have estimated the storage necessary to secure the 320000 cubic yards of waste material if it was excavated from the Neal's Landfill site. In practical terms, this volume could be accommodated in 4 buildings each of which would be approximately 400'x400'x16'. This volume is 10 to 15 percent more than the estimated volume of waste to allow earth moving equipment to stockpile the material in the building. A higher building would not be appropriate because stockpiling becomes difficult at greater heights. In the case of ISF, the height (41 feet) probably reflects the fact that CBS used the building not just to store but also to process the material indoors. The length and width could be modified to obtain a rectangular shape building; a square building is used here only as an example of the size requirement. If you need additional information on this, let me know. Kostas

Public Comment Sheet

Postmarked 2/5/99 OK

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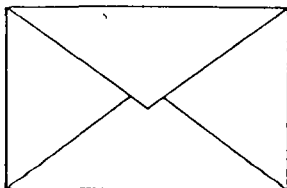
If you have questions about the comment period, contact Derrick Kimbrough at 312-886-9749 or toll free at 800-621-8431.

To whom it may concern:

In regards to the five alternatives for cleaning up PCBs at Neal's Landfill, I do agree that alternative four appears to be the best idea. It will remove the most highly contaminated soil and consolidate the remaining soil into a more compact area. The removal of these "hot spots" will greatly reduce the contamination in the area leaving a much smaller concentration of PCBs. I do, however, have a few concerns regarding this proposal. The incineration of buried capacitors seems to be an issue that will concern citizens. The possible release of toxins into the air is a main concern in the surrounding area. In order to ensure the safety of the area, some type of monitoring should be done during the process.

A second concern with the proposal is that it does not address the issue of water flow in the area. The current treatment plant can only treat 1 cubic foot of water per second, and the stream flowing in that area is much faster than that. Because of this, water containing high levels of PCBs is bypassing the treatment plant. Any alternative chosen should include some type of upgrade in the water treatment facility in order to protect the streams in the area.

Sincerely,
Darcie Honabarger



Name Darcie Honabarger
Affiliation Indiana University School of Public + Environmental Affairs
Address 3211 E. 10th St. Apt. A
City Bloomington
State Indiana Zip 47408

Public Comment Sheet

13
2/4/99

Your input on the recommended changes to the remedy for the Neal's Landfill site is important to U.S. EPA. Comments provided by the public are valuable in helping the U.S. EPA select the final alternative for the site.

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Postmarked 2/4/99 (DK)

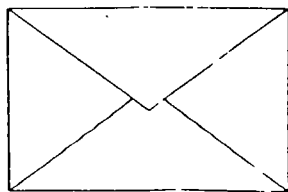
If you have questions about the comment period, contact Derrick Kimbrough at 312-886-9749 or toll free at 800-621-8431.

I believe that alternative # 4 would best suit the controlling of this environmental hazard. Along with extensive excavation I believe the most important aspect of this alternative is the long-term ground water monitoring. The monitoring of the ground water should not be limited to the site, but should include off-site monitoring as well.

I also believe that continued monitoring of the inhabitants of the surrounding site would be appropriate. This should include not only humans, but wildlife. This would ensure the safety and health of our community.

The cost of this alternative should also be addressed in the form of a public forum. In my opinion the public will probably not have a problem supporting a plan that ensures their own health and welfare.

The rate at which this cleanup has been moving is unacceptable. A deadline must be set for the completion of this clean-up. If this deadline is not achieved a fine should be set into action for every month over deadline. This program will ensure a speedy and thorough work schedule. In conclusion, this alternative plus the above criteria will benefit all involved. Thank you for your time. Sincerely, Carley Harris



Name

Carley Harris

Affiliation

School of Public and Environmental Affairs
student

Address

510 N. LINCOLN #8

City

BLOOMINGTON

State

IN

Zip

47408

Public Comment Sheet

73
2/4/99

Your input on the recommended changes to the remedy for the Neal's Landfill site is important to U.S. EPA. Comments provided by the public are valuable in helping the U.S. EPA select the final alternative for the site.

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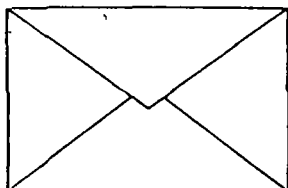
postmarked 2/4/99 (OK)

If you have questions about the comment period, contact Derrick Kimbrough at 312-886-9749 or toll free at 800-621-8431.

I am in agreement with IDem and the U.S. EPA on choosing Alternative 4. This recommendation, although costly, meets all criteria fully except for "Reduction of Toxicity, Mobility, or Volume through Treatment." This criterion, in my opinion, is the least important at this time. I believe that this criterion is one that will be able to be addressed more fully once the other criteria are fulfilled.

Being a student at Indiana University, this alternative is easy for me to agree with. Considering the residents of Bloomington, I wonder how this recommendation is to be funded. Hopefully with the EPA Superfund grants the community will not have to be financially burdened.

Any recommendation (2-5) is a step forward for the City of Bloomington. However the benefits of Alternative 4 clearly outweigh the costs. As a temporary resident of Bloomington and a permanent resident of Indiana, I am concerned with cleanup effects now so that someday my children can be concerned with something else. Thank You.



Name

Jill Harkness

Affiliation

Student - I.U.

Address

1423 N. Jordan

City

Bloomington

State

IN

Zip

47406

Public Comment Sheet

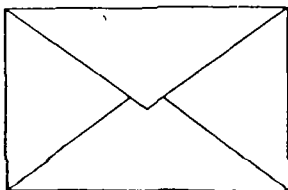
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If you have questions about the comment period, contact Derrick Kimbrough at 312-886-9749 or toll free at 800-621-8431.

It is my opinion that, of the alternatives being offered for dealing with Neal's Landfill, there is one that makes the most sense. Alternative 4 includes the excavation of "hot spots" greater than 500 ppm PCBs. The removal of this extremely dirty material will reduce the health risk from this area. Next, moving the remaining material to the center of the landfill will further reduce the risk of PCB seeping into the surrounding area by being confined to a smaller area. Finally, a RCRA Subtitle C compliant cap over the now reduced landfill site will provide many additional levels of containment for the site. This Alternative 4 provides the best protection for human and animal health without having to dig and remove the entire landfill.



Name Sean Gorman
Affiliation Bloomington resident
Address 2026 S. Oakdale W. Dr
City Bloomington
State IN Zip 47403

73 2/4/99

Bloomington, IN 47404

Derrick Kimbrough
Community Involvement Coordinator
U.S. EPA (P-19J)
77 W. Jackson Blvd.
Chicago, IL 60604-3590
January 31, 1999

Postmarked
2/4/99
DK

After considering all of the alternatives available for the remediation of Neal's Landfill I have decided that Alternative 4 would be the best choice. The material that poses the greatest threat will be removed and the remaining material will be consolidated in the middle of the landfill, reducing the size of the landfill and the risk of further contamination. The cap also significantly improves the protection from the landfill waste more so than the current two foot soil cap. This is where Alternatives 2 and 3 fall short. In Alternative 2 the most dangerous material is still present to contaminate soil and ground and surface water. Alternative 3 removes the dangerous materials but the remaining soil is not tested for its levels of PCBs nor is the area of the landfill reduced, which means that high levels of PCBs could still be present outside of the known "hot spots" and those areas that are affected by backflooding of groundwater still remain to contaminate the water supply and well water of the residents of the area. Alternative 5 carries a high price tag for achieving the same results as Alternative 4. Just as the other alternatives, Alternative 5 only partially meets the criteria for the reduction of toxicity, mobility, or volume through treatment. It takes much more time, manpower, and money to create the same effect as Alternative 4. For each of these reasons Alternative 4 appears to be the best choice.

An issue that I believe should be addressed is how far the remediation will extend. Water that flows from the landfill flows onto surrounding properties and drinking wells. How will the already contaminated water and soil at those sites outside of the landfill be treated? Knowing that there is a beef cattle farm where PCB-contaminated water flows is disturbing. I witnessed the cattle grazing on the contaminated soil and I assume that they also drink from the creek as well. There should be a plan to remediate such areas outside of the landfill where contamination is already present in high numbers.

Another issue that should be addressed is whether removing soil contaminated at 500 ppm is sufficient enough. Is there evidence that soil contaminated by 50, 100, 200 ppm or more imposes significantly less harm than soil contaminated at 500 ppm? The issue at hand is whether the most harmful soil is being removed so that the least amount of threat is present. Before deciding finally that 500 ppm is the concentration that is to be excavated, it should be determined that no other smaller concentration poses any serious threat.

It should also be addressed that water treatment and sediment removal are not considered part of the alternatives. The water treatment facility is too small and should be expanded and improved as a way to address the problem of water contamination sufficiently. Contaminated sediment should be removed to improve the surrounding area as well.

Being able to visit a contaminated landfill and witness its effects on the surrounding environment really opened my eyes to the effects of dumping PCBs. The CIC meeting I just attended also addressed many issues I had not previously considered. By implementing any of the alternatives it will in some way help the environment in and around the landfill. Alternative 4, however, creates the greatest benefit for the area at the most reasonable expense at this time.

Thank you for considering my comments and suggestions.

Sincerely,

Baliga

Baliga

Public Comment Sheet

T3
2/3/99

Your input on the recommended changes to the remedy for the Neal's Landfill site is important to U.S. EPA. Comments provided by the public are valuable in helping the U.S. EPA select the final alternative for the site.

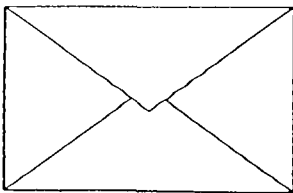
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postmarked by 2/3/99 ?

If you have questions about the comment period, contact Derrick Kimbrough at 312-886-9749 or toll free at 800-621-8431.

OK

I Want Alternative 5 not alternative 4 because the sampling methods used were inadequate to really determine where all the Hot Spots are. The only difference is alternative 5 should include a cleanup to 1 ppm AND to evacuate All material as called for in the consent decree (320,000 cubic yards) Considering that CBS/westinghouse cannot clean it out of our bodies or restore the creeks to their original state so that our children could go fishing, The least they could do is pay for a good clean-up now. Neals was never permitted as a landfill and therefore it is completely unacceptable to use it as one. It is sitting on karst stone topography and will continue to leak in all directions if not completely excavated. If any material HAS to be left on site, it should be vaulted so that my son's children and their children etc. will ^{not} be affected by this material. Alternative 5 should include Dioxin testing due to daily burning during dump's operation (I'm sure you already know this - look in your files.) Should be tested for other industrial chemicals also.



Name Michele Rogan
Affiliation parent, concerned citizen
Address 2309 N. Headley Rd # 3
City Bloomington, IN
State IN Zip 47408

because it was used as an industrial dump.
request for vaulting is due to EPA's own statement that all landfills leak (eventually) and it would save
... I think ... and I think the creek ...

73
11/1/89

Tom Alcamo
USEPA Region 5
77 W. Jackson Boulevard
Mail Stop HSRL-6J
Chicago, Illinois 60605

Subject: Proposed Plan for Cleanup of Neal's Landfill

I am submitting my comments regarding cleanup alternative #4 selected by the government parties and CBS for the Neal's Landfill Site in Bloomington, Indiana.

I strongly agree ☒ partially agree ☐ disagree ☐

Comments:

*I believe CBS has proven their ability to safely
clean up PCB contaminated sites at the Kell Iron Works
the Winston Thomas site. It is time we allow them to
continue with their extraordinary progress.*

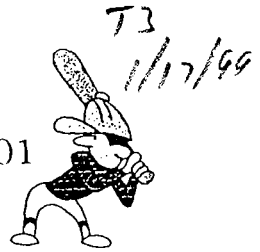
Sincerely,

J. Kris Code
Signed

11/1/99
Date



Lloyd W. Olcott • 2916 Stratford Drive • Bloomington, IN 47401



January 17, 1999

Mr. Tom Alcamo
USEPA Region 5
77 West Jackson Boulevard
Mail Stop HSRL-6J
Chicago, Illinois 60605

Dear Mr. Alcamo

I would like to support, for our Bloomington Indiana community, the current cleanup proposal, alternative #4, for the Neal's Landfill site in Bloomington.

I served on the Bloomington City Council during the initial agreement and have been in on discussions with Westinghouse/CBS continually since that time. I sincerely believe that the time is here where we need to proceed with the final clean-up and not be delayed by negative delays.

We need to reach a conclusion to the PCB situation and all parties must proceed with the best alternatives offered.

Thank you again for your efforts in behalf of my community.

Sincerely,

Lloyd Olcott

Bloomington, IN. 47401

E-mail: lolcott@bloomington.in.us

Tom Alcamo
USEPA Region 5
77 W. Jackson Boulevard
Mail Stop HSRL-6J
Chicago, Illinois 60605

Subject: Proposed Plan for Cleanup of Neal's Landfill

I am submitting my comments regarding cleanup alternative #4 selected by the government parties and CBS for the Neal's Landfill Site in Bloomington, Indiana.

I strongly agree ☒ partially agree ☐ disagree ☐

Comments:

David Scott
Signed

1/17/99
Date

73
1/14/99

2608 East Second Street
Bloomington, IN 47401
January 14, 1999

Mr. Tom Alcamo
USEPA Region 8
77 W. Jackson Boulevard
Mail Stop HSRL-6J
Chicago, Illinois 60605

RE: Proposed Plan for Cleanup of Neal's Landfill

Dear Mr. Alcamo,

I came to Bloomington in 1984 and the topic of conversation in many circles was the PCB issue in our community. As a Rotarian, I have heard at least half a dozen speeches on the problem, its potential solutions and the cost to accomplish them. I have been involved on periphery of the issue over these years, including a visit to Neal's Land Fill as well as other PCB sites.

Its time that all parties move toward finalization of this issue. While I believe that the opposition to proposals to rid our area of the PCB menace are sincere, they are often over zealous. I believe that CBS personnel currently in charge both want to do what is right and are prepared to take reasonable steps to accomplish that end.

I have read the alternatives for the Neal's Landfill site. Therefore, I want to record my support for cleanup atlternative #4 as designated by the government parties and CBS for Neal's Landfill in Bloomington, Indiana, and I urge that this issue be finalized quickly.

Respectfully yours,


Baldwin

TO: DERRICK KIMBROUGH
FROM: ZURCHER
DATE: JANUARY. 31, 1999
SUBJECT: NEAL'S LANDFILL

Postmarked
2/2 @ DK

T3
1/2/99

In considering the options for clean up of PCB's at Neal's Landfill I believe along with the EPA that Alternative Four is the best option presented. Although I do believe there are numerous problems with this alternative. Overall the current situation at this location will be helped by any action there a few points that are left out by the purposed Alt. Four.

ALTERNATIVE FOUR

Using this plan at the contaminated areas will allow for better control of PCB's. Although carting off all contaminated material to off-site location sounds like a reasonably sound idea, this only presents the problems of transportation and possible contamination of other sites causing unnecessary problems for inhabitants of other areas. Besides that it is our problem and we shouldn't 'dump' it upon others not responsible. Consolidation of these contaminants will allow for ease in controlling surface runoff, groundwater contamination, and air release. With a RCRA Compliant Cap over the reduced area better protection to the surrounding environment is possible.

PROBLEMS

As of yet, the EPA has not decided to regulate the waters that flow around the landfill. These water not only support differing habitats, but also farm animals. Since waters around the landfill are easily affected by rising water levels due to rain and overflow by springs throughout the landfill, their possible transport of toxic substance to surrounding water is eminent. Not only should surrounding waters be monitored, but also controlled just as the on-site groundwater. The next issue of concern is the reduced cap area. It seems that since the whole area was once contaminated the whole area should be covered with a RCRA Compliant Cap to ensure no more problems in the long-run. With the addition of protection to surrounding waters and a complete cap for the original area I believe that PCB problem will have efficiently been handled.

OPTIONS NOT CONSIDERED

The option not considered is as suggested above surrounding water protection and a full cap. Instead of an addition to the Alt. Four, another alternative including surrounding water protection, source identification of on-site springs and reduction of water flow through these, and a full cap covering the original landfill. This alternative would effectively cost more in the long-run, but there would be no need for further worry of contamination, but only future plans of monitoring cutting possible future costs.

T3
1/18/99

Tom Alcamo
USEPA Region 5
77 W. Jackson Boulevard
Mail Stop HSRL-6J
Chicago, Illinois 60605

Subject: Proposed Plan for Cleanup of Neal's Landfill

I am submitting my comments regarding cleanup alternative #4 selected by the government parties and CBS for the Neal's Landfill Site in Bloomington, Indiana.

I strongly agree ☒

partially agree ☐

disagree ☐

Comments: The Alternative #4 proposal is for an estimated total off-site removal of 20,000 cubic yards of contaminated material. Such a volume removal appears appropriate when linked with the following:

- * off-site incineration of capacitors, capacitor parts and oil;
- * centralized consolidation of sub 500 ppm material into a newly established 10 acre (on-site) landfill;
- * the installation of the RCRA compliant cap over the now established 10 acre site.

The issues are complex and the descriptive language is difficult to comprehend. However, the implementation of the Alternative #4 plan can bring about the COMMUNITY ACCEPTANCE that is being sought here in Bloomington and Monroe County.

Signed

Date

Tolen

January 18, 1999

SEE
(PLEASE ATTACHED LETTER)

January 18, 1999

Tolen,

Bloomington, IN
47403

Tom Alcamo,
U.S. EPA -Region 5,
77 West Jackson Boulevard,
Mail Stop HSRL-6J,
Chicago, Illinois 60605

Dear Tom:

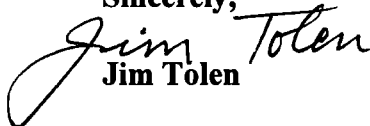
This letter is being submitted with regard to The United States Environmental Protection Agency's *request for public comment* of the SOURCE CONTROL cleanup of Neal's Land-fill in Monroe County, Indiana. Please accept this letter as an endorsement in support of implementation of Alternate #4 of the five that have been submitted to "the parties" and this community at large.

Our community has examined, in earnest, for a long period of time, virtually every conceivable aspect of safe resolution to our "PCB problem". A great many citizens in Bloomington and Monroe County, who have not been *vocal* with voice or pen, are nevertheless ready and anxious for reasonable conclusion to "the cleanup". The EPA EVALUATION OF SOURCE CONTROL ALTERNATIVES, if examined by reasonable people, will be found by virtue of the "nine criteria" method, to be thorough in content and objective.

The implementation of Alternative #4 offers to this Community ...protection, permanence in long-term effectiveness, a reduction in toxicity and mobility, and, perhaps, most importantly, overall community acceptance.

I look forward to receiving news of a date to begin Alternate #4.

Sincerely,


Jim Tolen

(a Monroe County resident for more than 34 years)

rec'd 1/5/99

**MONROE COUNTY HEALTH DEPARTMENT
119 WEST SEVENTH STREET
BLOOMINGTON, INDIANA 47404-3989
(812) 349-2543
FAX (812) 339-6481**

Postmarked 12/30/98 T3

December 30, 1998

Mr. Derrick Kimbrough
Community Involvement Coordinator
Office of Public Affairs (P-19J)
U.S. EPA - Region 5
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

RE: Comments on the Proposed Changes to the Source Control Remedy for Neal's Landfill

Dear Mr. Kimbrough:

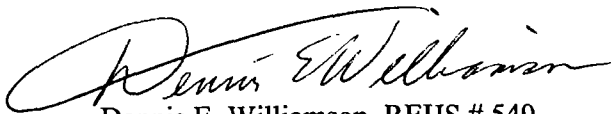
I wish to submit the following comments on the Source Control Remedy for Neal's Landfill, Monroe County Indiana.

I would like to see Alternative 5 as the remedy. I recognize that U.S. EPA has a policy of not "digging up" landfills. I do not agree with this policy and it needs to be changed for situations like the Neal's Landfill and Lemon Lane Landfill Superfund sites. Alternative 4 will leave considerable amounts of PCB material (<500 ppm) on-site. The integrity of the "karst limestone" foundation could be a real engineering challenge and a real problem for additional releases of PCB particles.

I would support Alternative 4, with a "re-opener clause", for future considerations (within the next five years) involving the materials that are to be consolidated on-site. CBS and U.S. EPA need to seriously consider using an on-site thermal treatment unit to reduce the potential threats from these materials. Can anyone ensure the long-term effectiveness of the RCRA Subtitle C compliant cap? Even with the spring water treatment plant operating and long-term groundwater monitoring, does it not make sense to do some treatment of PCB material (50 ppm to 500 ppm) we can physically see and handle now?

Thank you for giving me the opportunity to comment.

Sincerely,



Dennis E. Williamson, REHS # 549
Senior Environmental Health Specialist

73
ND

J. Peters

Bloomington, IN 47408

Mr. Derrick Kimbrough
Community Involvement Coordinator
Office Of Public Affairs
U.S. EPA (P-19J)
7 West Jackson Boulevard
Chicago, IL 60604-3590

Dear Mr. Kimbrough:

I am a senior at Indiana University majoring in Environmental Science and a resident of Bloomington, IN. Due to projects and discussions in many of my classes, I have developed an interest in the PCB situation in Bloomington and have several comments on the proposal for remedy for the Neal's Landfill Site.

I agree that of the choices offered, Alternative 4 would provide the most cost efficient and economical cleanup of the site. In Alternative 4, the risk of transport and incineration of the excavated soil and capacitors does present an additional hazard to those potentially exposed to the area, but does not hold as high of a risk as the total excavation and transport to another site as presented in Alternative 5.

Though these are the only two options that I would potentially support, they both still hold one major flaw: groundwater and surface water flow beneath and around the landfill site and potential contamination of the water. Each Alternative mentions a groundwater monitoring plan that would be developed, but this contamination problem should not be an afterthought in the source control alternatives. When I recently visited the Neal's Landfill site with an IU class, we witnessed extreme water flows much beyond what the current water monitoring system could handle on the site due to a rain event the previous evening. Heavy rains common in Southern Indiana, especially in the spring and fall, and the possibility of groundwater and surface water becoming contaminated by sudden pulses through the system of higher amounts of water than usual are probable.

Before a final plan to solve the Neal's Landfill situation can be adopted, the water flow, both actual and potential, must be addressed and must also be included within the final draft. Inclusion as an afterthought and as something to be determined at some time not specified in the future is not acceptable.

Thank you very much for your time and consideration of this matter.

Sincerely,

Signature

T3
ND

Dear Mr. Kimbrough - the
comments I sent to you on Feb 1st to
make the deadline weren't proofread
for the most part and when I read
it over later it was such a mish/mash
of things not deleted etc etc - I
made the necessary improvements
and the enclosed document is
the result. It's essentially the
same in comment. I hope you
will accept this as the finished
comments. THANK YOU, S.E. Frey

73
ND

Comments to EPA on Proposed Source Control Remedy for Neal's Landfill (Bloomington, IN)

Diane Henshel
Associate Professor
Indiana University
SPEA 340
Bloomington, IN 47405

Process Issues:

First, I would like to emphasize that EPA and the parties must keep in mind that this must not be the final solution for Neal's Landfill. These alternatives do not address either the contaminated streams coming out of the landfill, or the clean-up of the sediment that is already contaminated downstream. Both problems must be addressed in the future. At this time, the water treatment plant at Neal's Landfill is totally inadequate. It lets by most of the (contaminated) water emerging from the landfill. Thus a 30 cfs water treatment plant needs to be put in in place of the small plant presently there. This is especially true considering that, by all accounts, all of the contamination, or even most of the contamination, will NOT be removed from the landfill.

Second, it would have been a much more satisfactory process, and we would be judging a much more appropriate set of alternative remedies had the community had some input into what alternatives were being evaluated. Alternative 4 is NOT a satisfactory solution, although it is better than doing nothing. Alternative 5 is apparently too costly, although it is by far the most appropriate alternative, and the ONLY one of the five that in any way approximates the solution proposed in the Consent Decree. If this is the case, then why is there no alternative suggested that is between what is now Alternatives 4 and 5? If the community had been asked for feedback BEFORE the alternatives were evaluated, then a more reasonable set of alternatives would have been considered. After all, Alternatives 2 and 3 are pretty worthless proposals.

Third, the level of explanation in the evaluation matrix is poor at best, and does not at all define what the parameters mean in real life. What criteria are being used? How are they defined? Are the definitions up to date? Are they adequate for the protection of human health and the environment, for example? How close are the "partially meets criteria" results for Alternatives 3, 4 and 5 for Evaluation Criterion 4? How do Alternatives 2 – 5 meet Evaluation Criterion 1? This is hard to believe at best. My guess is that Alternative 5 is pretty protective, certainly in the longer term, while Alternatives 3 and 4 barely even comes close to being partially protective of human health and the environment, especially if the criteria include the more sensitive endpoints (such as nervous system or immune system effects) for the more sensitive receptors (such as infants or young animals, fetuses and embryos, and developing pre-pubertal children and animals).

Choice of Alternatives:

Of the alternatives suggested, Alternative 5 is preferable from the perspective of community and ecological health. Of the alternatives suggested, it is the ONLY one that even approaches true protection of human health and the environment, based on what we know NOW about the sub-lethal, but still very adverse effects of PCBs on embryonic nervous system and reproductive system growth and development. Alternative 4 is better than Alternatives 1 – 3, but it is by no means satisfactory. However, Alternative 4 could be easily (and not very expensively) improved upon. For example, I would prefer that the material to be left on site have a proper liner put underneath it, preferably with a leachate recovery system between 2 liners (i.e. a TSCA liner). However, should that be too expensive (let's trade off human and environmental health against PRP money here), at least put a liner down on top of what is there BEFORE putting more (still contaminated AT LEVELS THAT ARE ACTION LEVELS AT A TRUE CERCLA/RCRA SITE) landfill material on top. That way, should the water table ever rise above the level of what is there now, at least more PCB contamination will not be pulled into the ground water and out into the surface water streams that emerge from the landfill.

T3
2/3/99

From: Backhus
To: R5AIR.R5ORA (KIMBROUGH-DERRICK)
Date: 2/3/99 3:39pm
Subject: Public comments of the proposed Neals Landfill remedy

Please register the following as my response to your solicitation for public comment on the Neals Landfill site.

Given the complexity of karst subsurface environments, it is extremely difficult to gather sufficient data to understand all current and future exposure pathways that could present risks to human health and the environment. These inherent inadequacies in databases (i.e., databases that can be obtained at a reasonable cost over a reasonable time frame in such complex systems) lead to great uncertainty, which makes it very difficult to make sound and scientifically based decisions regarding remediation of contaminated sites located in karst regions. In light of this high level of uncertainty, it behooves the EPA and other parties to act in an extra protective fashion when faced with the need to move forward and make decisions regarding the best source control remedy (i.e., a remedy that is protective of human health and the environment now and into the future and that on balance best meets the other criteria considered in remedy selection). Reliance on guidance developed and based primarily on simpler sites may not be appropriate for decision making in karst dominated subsurface areas due to the tremendous uncertainty that will always exist in contaminated karst areas. I do not believe that the proposed remedy is sufficiently protective to overcome the grave uncertainties surrounding this site. Several specific concerns and suggestions regarding the proposed remediation alternative are noted below.

1) I am very concerned that the non ideal decisions made at this site will in the future be used as precedent to make bad decisions at other similar sites. I am particularly concerned about the precedent that might be set here and used to minimize the cleanup at Lemon Lane. I would suggest that the language in this decision document make it very clear that this is a unique site with regard to location and potential exposure points and that this decision was made under unique conditions (i.e., the court order requiring that decisions be made under a very accelerated schedule, which left little time to thoroughly study the site, etc.). Please do not exacerbate a decision that is far from ideal and, given the uncertainties, questionably protective of human health and the environment by leaving it open for questionable use in future decision making at other sites.

2) As a possible compromise alternative, I would suggest that you calculate how much extra it would cost to temporarily move the material that will remain within the bounds of the consolidation zone (new 10 acre footprint of the landfill) and then place a liner and leachate collection system underneath the proposed consolidation zone. The consolidated waste and temporarily moved waste (e.g., stock piled on site) can then be placed onto a surface that will provide significantly more protection to overcome the uncertainties at the site. Though this will not approach the level of protection and increased level of certainty afforded by total excavation and disposal in a carefully constructed and regulated landfill built in an area where far more is known about the subsurface environment, it will certainly be more protective than Alternative 4. I suspect that this extra

cost of earth moving and lining the 10 acre foot print will not increase the costs significantly. Such efforts are likely to increase the benefits (extra protections) dramatically. It will be far less costly to spend the extra money while earth moving equipment is on site than to have to return to the site later to address a future crisis.

3) I am concerned about the details of the sampling plan for the consolidated material to determine whether it is > 500 ppm. By mixing relatively clean soil with highly contaminated soil one can create a mix that will not exceed 500 ppm. I sincerely hope that an adequate plan is in place to assure that "hot spots" are detected in the consolidated material and are removed from the site and not simply mixed with clean material to reduce the measured levels thereby allowing the material to remain on site.

I sincerely hope that the EPA will take these and others comments into account as you move forward in determining a source control remedy for this site.

Respectfully submitted by,

A. Backhus

Ph.D. Civil and Environmental Engineering, Massachusetts Institute of Technology, 1990
Associate Professor of Environmental Science, and
Director of the Ph.D. in Environmental Science Program
School of Public and Environmental Affairs
SPEA room 427
Indiana University
Bloomington, Indiana 47405

Postmarked
2/11/99 T2
OK

February 1, 1999

TO: Derrick Kimbrough, Community Involvement Coordinator,
Office of Public Affairs, Region V U.S. EPA (9-19J), 77 West
Jackson Boulevard, Chicago, Illinois 60604

RE: PROPOSED CHANGES TO THE SOURCE CONTROL REMEDY FOR NEAL'S
LANDFILL near Bloomington, Indiana, by U.S. EPA, December
1998

FROM: Sarah Elizabeth Frey, 2625 South Smith Road, Bloomington,
Indiana 47401

HISTORICAL BACKGROUND

Proposed changes to the source control remedy by U.S. EPA for Neal's Landfill constitutes a drastic change to the Consent Decree (CD) filed in Federal court, Southern District, Indiana, in August 1985, requiring that Superfund Sites of Monroe county and City of Bloomington (MC/CB) be excavated to background level.

The proposed remedy requires excavation and removal only of "hot spots" greater than 500 ppm PCBs, and consolidation of portions of the landfill that appear to be subjected to backflooding of groundwater to the center of the site reducing the size of the landfill from the current 18-acres to 10 acres and then capping it. Capacitors recovered are to be incinerated and the hot spot material stored in an approved landfill.

For cost purposes EPA has estimated for alternative 4 ca. 20,000 cubic yards to be disposed of off-site, although 41,000 acres around the contour lines of the hot spots will be tested and if soil is contaminated greater than 500 ppm it too will be removed off-site.

To even suggest that alternatives 2, 3, and 4, "meet the criteria of being protective of public health and the environment" is outrageous. Number 5 is the only alternative which conforms in any way to the Consent Decree and only to the extent that the 18 acres of Neal landfill currently estimated at 320,000 cubic yards would be excavated, although limited to industrial cleanup level standard of 25 ppm on average rather than background level. Capacitors excavated are proposed to be disposed of by incineration.

The Consent Decrees was forged behind closed doors in 1984 and what that meant to the public in the years that followed is essential to understanding what preferred alternative 4 in the proposed plan means today. Simply that W/CBS would be getting an easy way out by incomplete excavation of Neal's Landfill, the estimate being \$16 million for alternative 4 and 80 million for alternative 5, with public health and the environment continuing at

risk---the extent unknown---for a cost-effective action favoring the PRP.

Region 5 U.S.EPA, in a 1990 letter to U.S.Representative, Lee Hamilton, responding to questions asked Hamilton by the Bloomington Common Council, noted that EPA must consider many factors in choosing cleanup technologies: 1) the willingness of a party to conduct a cleanup; 2) the commercial availability of a technology for a commercial site; 3) other contaminants, cost, the time necessary to implement a cleanup, and 4) site specific characteristics.

Westinghouse did not come willingly to assumption of responsibility for the cleanup of the landfills and dumps it contaminated in the MC/CB area, despite obvious and clear evidence that Westinghouse was the PRP, but had to be sued by both the City of Bloomington and EPA (United States).

Nevertheless, EPA showed clearly in provisions of the Consent Decree its willingness, aided and abetted by the City of Bloomington, to grant WESTINGHOUSE, the PRP, choices and prerogatives for the cleanup favorable to the polluter, not the public and its environment that had been exposed to air, land and water pollution of PCBs on a large scale since Westinghouse began using PCBs in capacitors in 1957-58, with over 200 sites being identified by a search committee.

The occupational health effects experienced by Westinghouse Plant employees and their families were never studied in an epidemiological sense although many workers were heavily exposed. Home sites were contaminated from scavenging of capacitors for copper, and by spreading sewage sludge spread on garden, lawns and fields (contaminated with PCBs discharged into the sewer system from the Westinghouse Plant) on fields and gardens, without knowledge of its harmful effects. Others from living in the vicinity of the many dumps used by Westinghouse. The Monroe County Health Department received numerous letters from those residents, often protesting the burning practices employed at the dumps.

Fell Iron & Metal in downtown Bloomington, not far from the Courthouse, is an infamous site where hundreds of capacitors were dumped and PCBs incorporated in the soils. The PCB smell could always be picked up some distance from the area and PCBs were disseminated broadly outside Fells via the eastgate when it rained.

Fell's is one of the sites responsible for contamination of Clear Creek and data collected in the sediment along the railroad track east of Fells in 1991 contained 53 ppm, indicating a present risk. Despite the recent cleanup, the ambient air in the vicinity of Fell's still reeks of PCB odors, testimony to the fact that PCB sites should be cleaned up as closely as possible to bedrock (where contaminated to that point) and background level.

MYSTERY OF THE ROD/EDD

The EPA Record of Decision/ Enforcement Decision Document (ROD/EDD) should be compulsory reading for every Bloomington citizen. EPA signed the (ROD/EDD) on the Consent Decree on December 4, 1984, prior to the public getting a look at it, making a mockery of the public comment period. The ROD/EDD was not published in the Federal Register at that time, a required practice, and local and state officials did not have copies. INPIRG filed a FOIA request to Region V EPA more than a year after filing of the Consent decree in Court, although it took a couple of months to receive the ROD/EDD.

NO REMEDIAL INVESTIGATION/FEASIBILITY STUDY (RI/FS) NOR AN EIS

EPA did reconnaissance surficial investigations of the Superfund Sites in early 1980s and removed capacitors from the surface or buried them as in the case of Neal's but no study was submitted to the public of the scope of contamination of the sites nor of incineration as the Consent Decree remedy. Citizens asked immediately for a Remedial Investigation/Feasibility Study (RI/FS) since Superfund/National Priority List sites were under CERCLA and requested that Fell Iron and Metal be included as a CERCLA site.

At first EPA said they didn't have to do an RI/FS, and when citizens then asked for EIS under NEPA since the cleanup represented a major federal action that would impact the quality of the human environment, it was also denied. When citizens sued, EPA replied they had done a "functional equivalent", but the functional equivalent was never presented to the Court and the Court never required that EPA present the evidence. In fact the Courts gave the Consent Decree jurisdictional status considered it inviolate, and the case was not heard on its merit.

Hugh Kaufman, of EPA staff in the Hazardous Waste Management office, Washington, D.C. testified in an affidavit that he knew of no other community denied an RI/FS in a case of a hazardous waste landfill and MC/CB had 3 landfills on the National Priority list.

When Dan Hopkins, former EPA Project Manager was asked why an RI/FS or an EIS was not made, he simply replied that "Westinghouse didn't want one" and Westinghouse confirmed this when talking to an EPA Ombudsman. Thereby hangs the tale. Region 5 EPA and still higher EPA officials considered getting the Principal Responsible Party, Westinghouse, to pay for the cleanup, more important than the public good and the will of the people. Another case of the end justifying the means at the expense of the public.

Citizens learned later that prior to negotiation of the Consent Decree EPA had conducted what they called an RI/FS for Neal's Landfill, recommending removal of the contaminated soils from the sites, but did not consider incineration a remedy.

Still later, after citizens contacted an EPA Ombudsman to ask EPA for what they considered a "functional equivalent" they received the documents and the Ombudsman concluded that the

documents did not qualify as an RI/FS "functional equivalent.

INCINERATOR PERFORMANCE AS AN EPA FANTASY

Nevertheless, incineration was chosen as the technology for the MC/CB cleanup, and Westinghouse which was in the incinerator business at that time was given authority under the Consent Decree to build its own type of incinerator---the O'Connor Rotary Combustor---and build it on land provided by the City of Bloomington on South 37 near the Bloomington Sewage Disposal Plant. Topping the deal was the provision that the City of Bloomington would provide Municipal Solid Waste (MSW) to fuel the hazardous waste incinerator, and pay tipping fees which would help Westinghouse defray the cost of building and operating the incinerator.

The entire remedy of the Consent Decree was experimental. Not only was burning of HIGHLY CONTAMINATED SOILS experimental in such an incinerator and in such vast amounts, estimated by EPA around 650,000 cubic yards, but using MSW as fuel for a hazardous waste incinerator, without knowing the identity of other toxic contaminants with which PCBs and dioxins and furans were inextricably mixed in the soils was mind-boggling.

At the same time, a national movement toward recycling, recovery and reuse of the Nation's solid waste had begun and the Bloomington public was outraged that the City would commit even a part of its municipal waste, particularly paper, to such an experiment when Bloomington citizens were wanting there own recycling program.

Even beyond that, the Consent Decree included a provision that allowed Westinghouse to select an alternative technology if the preferred remedy of incineration didn't work, provided the alternative could achieve a level of PCB destruction equal to or greater than that provided by incineration!

No Westinghouse O'Connor Rotary Combustor had ever been tested, certified or operated as a Hazardous Waste Incinerator and it had a reputation for leaking at its seals. The City of Bloomington had an understanding with Westinghouse that they would build an experimental pilot facility to test destruction removal efficiency (DRI) of the proposed incinerator. The pilot plant never materialized nor did the W/CBS idea of using its Panama City, Florida incinerator as a substitute pilot plant work out.

A large segment of the MC/CB community opposed incineration as a hazardous waste/municipal waste technology from first suggestion of its use as a remedy for the MC/CB Superfund Sites, on grounds that IT WAS NOT A PROVEN TECHNOLOGY. Certainly EPA had APPROVED incineration as a technology, but they had not proven it safe to use for SOILS heavily contaminated with toxic substances and fueled by municipal waste, and incinerators all have a record of MALFUNCTION which must be a concern of communities with

incinerators classed as hazardous or as municipal waste combustors.

The discussion of hazardous waste incineration and municipal waste incineration which EPA submitted with their proposed rules for regulation on December 20, 1989 and April 27, 1990 clearly show that they cannot monitor and measure contaminants continuously that are emitted from the stack under normal operating conditions using state of the art pollution control devices, and spot sampling for specific substances under contrived ideal conditions is no answer either.

PICs (products of incomplete combustion), POHCs (principal hazardous organic constituents), (PM), particulate matter, and toxic heavy metals cannot be continuously identified or measured in the emissions but surrogates are used and GOOD COMBUSTION PRACTICES (GCP) are depended on, with limits on CO emissions, controlled loading of wastes, flue gas temperature at the inlet to the PM control device, and operator certification and training requirements for efficient and reliable operation.

The problem with GCP is that incinerators routinely malfunction and the amount of toxic material emitted at such times can be very substantial. All incinerators have escape valves and they are used to by-pass the stack.

Controlled loading of an incinerator is also a sometime thing, particularly when you don't know what's in the waste, and sampling and analysis techniques for feeding MIXTURES of toxic substances into the incinerator is severely limited. The public was assured by an EPA scientist in the Memo submitted to the Judge with the Consent Decree in 1985 that the incinerator would be maintained at a temperature of 1200 degrees F, which would consume PCBs and dioxins and furans, but incineration never works perfectly and even if it worked at a 99.99% DRE (which it usually doesn't even in "perfect conditions dream tests") incinerators are known to release unburned chemicals (PICs, products of incomplete combustion) at a rate of 7,000 lbs/year or more, including PCBs and dioxins and furans.

EPA seldom mentions "fugitive emissions" but they escape from incinerators in quantities equal to or more than PICs, and "fugitive emissions" from other routes, accidental releases during excavation, transport, storage, and handling may be considerable.

CITIZENS OPPOSED TO PCB ASH (COPA)

A general MC/CB consensus against incineration accelerated when citizens learned that Westinghouse had chosen a site for an incinerator ash landfill along Bottom Road.

Citizens learned more fully that they would not only be exposed to highly toxic chemicals emitted from the stack into their environment, but the better the performance of the incinerator and its pollution control equipment, the greater retention of highly

toxic substances in the mountainous quantities of fly and bottom ash that would be moved into their vicinity and a citizen group of citizens opposed to PCB ash was formed.

The fact that the contaminated soil would not be reduced in size with incineration and actually increase with use of MSW as a fuel, and the opinion of a consultant(s) that the site chosen on Bottom Road was unacceptable for a Hazardous Ash Landfill resulted in a public request to representatives of the MC/CB area in the Indiana General assembly for a study of alternatives to incineration.

A bill was passed by the Assembly requiring a 2-year study of alternative technologies/remedies by the Indiana Department of Environmental Management (IDEM).

FINAL DATA EVALUATION REPORT FOR REMEDIAL INVESTIGATION/FEASIBILITY STUDY, SAMPLING AND ANALYSIS ACTIVITIES, NEAL'S LANDFILL SITE, MONROE COUNTY, INDIANA, AND,

PROPOSED PLAN FOR THE SOURCE CONTROL RECORD OF DECISION AMENDMENT AT NEAL'S

The issuance of the 1) Final Data Evaluation Report for Remedial Investigation/Feasibility Study (FDER/FIFS) Sampling and Analyses Activities, Neal's Landfill Site, November 1998, prepared for U.S. EPA, Region 5, Chicago, Illinois by Tetra Tech; and 2) U.S. EPAs Proposed Plan for the Source Control (PPSC) Record of Decision Amendment at Neal's Landfill, December 1998; ushers in a new round of effort to develop a response action to remediate the major superfund sites to conform with a November 1997 judicial order of Federal Judge Hugh Dillin stating that the Consent Decree Sites must be remediated by December 1999.

Judge Dillin's action is understandable for we have had a serious and deplorable public health and environment situation for four decades and the interim remedial measures performed at the major sites, Lemon Lane, Bennett's Quarries, and Neal's Landfill have not prevented continuous leaching of PCBs and other toxic substances into surface and ground waters draining these sites, into ambient air, with inhalation as well as deposition on soil and plants etc. with unknown effects.

EXTENT OF CONTAMINATION OF NEAL'S LANDFILL

The Tetra Tech RI/FS study contracted by U.S. EPA was limited by the statement of Work in a number of ways by what it could and could not do, limiting it as a basis for decision-making:

1) PCBs is the only hazardous waste tested for in the RI/FS. PCBs may be the principal hazardous waste at Neal's Landfill in terms of volume with an EPA estimate of 10,000 and as many as 40,000 capacitors dumped at the site (EPA Fact Sheet). PCBs may

also be the most widely distributed contaminant since Tetra Tech notes in the RI/FS that "Analytical data obtained by Tetra Tech and PSARA indicate that PCB contamination extends throughout the landfill at various concentrations."

Trichloroethylene was also one of the principal toxic substances dumped by Westinghouse in large quantities, but many other highly toxic contaminants, some more toxic than PCBs, have been collected and documented from Neal's landfill, and they should have been or should be identified and quantified.

PCBs have been spreading both laterally and vertically and mixing with other organic contaminants and metals and metallic compounds for decades and BURNING OCCURRED AS PART OF THE DISPOSAL PROCESS of the capacitors as well as for compacting wastes. Dioxins and furans have formed when PCBs were burned at low temperatures as at Neal's and more highly chlorinated PCB congeners occur from biological processes (microbial degradation) after being buried for some time in soil. Neal's is considered a Pandora's box.

Charles Anderson whose job it was to scavenge capacitors for copper and solder for the money it brought, has said that he and his helpers took care of 200 or so capacitors per week for nearly three years. EPA says the dump was used by Westinghouse from 1966-67 but the workers say it was sometime in 1968 when the State finally closed-down dumping of capacitors. The dumping of large quantities of clay, PCB-saturated sawdust and contaminated rags and other toxic wastes from Westinghouse continued till the dump was closed in 1972.

Among the materials picked up by Neal's from Westinghouse were xylol, toluol, paint, zinc hydroxides,, cutting oils, mineral oil, varnish (toluol thinner), scrap blocks of silicon carbide, polyester resin-mica, aluminum foil, paper, cardboard, polypropylene film, rubber, cork sheet, asbestos board, glass-polyester board, paint filter-paper, scrap metal (iron and stainless), with quantities varying from small to large amounts, paper, cardboard, and propylene film being dumped in large amounts and silicon carbide, polyester-mica, aluminum foil, and scrap metal in moderate amounts.

Westinghouse reported in its September 1985 Site Safety Plan of the occurrence of Trichloroethylene; Methylene Chloride; 1,2,trans-dichloroethylene; Toluene; Vinyl Chloride; Ethyl Benzene; Benzene; and Carbon Tetrachloride at the Neal Landfill, and the State of Indiana reported to Westinghouse in 1985 the presence of Polychlorinated Dibenzo Furans and Polychlorinated Dibenzo Dioxins (also reported by EPA) and asked that they be included in the safety plan.

The Feasibility Study (FS) of Alternate Treatment Technologies For Six Sites in Bloomington, Indiana, prepared for the Indiana Department of Environmental Management (IDEM) by PRC Environmental Management Inc. June 27, 1995, considered PCBs, Dioxins, and Furans

primary contaminants of concern under the Consent Decree but also lists other contaminants of concern (and their concentrations) for Neal's Landfill for surface water (on-site springs): PCBs; Trichloroethylene; Aluminum; Arsenic; Boron; Chromium; Cobalt; Heptachlor; Lead; Sodium; Vanadium; and Zinc.

For Groundwater IDEM lists contaminants of concern: PCBs; Chloroethane; 1,1,1-Trichloroethane; Trichloroethylene; and Vinyl chloride. For Surface Soil: PCBs, Dioxins, and Furans. Ambient Air: PCBs; Sediment (Conard's Branch); and for Soil Borings, Dioxins.

The IDEM study gave a range in surface soil concentration of PCBs of 79,000 to 136,000 ppm. The study also reported high concentrations of Calcium, Iron, Sodium, Aluminum, and Magnesium, in that order in leachate.

The Fish & Wildlife Service (F&W), Bloomington Field Office, in its critique of the Draft Report (November 1993) of the Indiana Department of Health (ISDH) entitled "Preliminary Data Evaluation and Pathways Analyses Report for Consent Decree PCB Sites, Bloomington, Monroe County and Spencer, Owen County, Indiana, given in a letter to Dr. Greg Steele, ISDH, questioned the superficial nature of the sampling efforts, lack of sampling design to ensure representativeness; and undocumented quality assurance information, and noted:

"Unfortunately, it is likely that all of these sites are continuing to leak PCBs to nearby groundwater and surface water.", and,

"Probably, the most compelling weakness is the general lack of dioxin and furan data throughout the sites, especially where burning was known to occur. (Lemon Lane Landfill, Neal's Landfill, Bennett's Quarry)."

The F&W letter discussed ambient air pathways, noting that

"After major rainfall events, ambient air in the Stout's Creek corridor, is noticeably impaired, and would appear to be a significant risk to residents of nearby homes. Similar ambient air situations occur after measurable rainfall events in Conard's Branch (recipient of Neal's landfill effluent/leachate runoff), at the Illinois Central Railroad Seeps (ICS) and in the unnamed tributary to Clear Creek downstream of the ICS, and Clear Creek."

The F&WS also noted that they had collected sediments in 1991 from Conard's Branch that contained PCBs ranging from 2.85-13.99 ppm, quite significant since bioaccumulation occurs more rapidly and to much higher levels in aquatic food chains.

The F&WS further stated that site-specific surface water data can be compared to EPA's PCB ambient water quality criteria of protection of human health for consumption of aquatic organisms and

drinking water 0.079 ng/l (ppt) (associated with a 1×10^6 cancer risk) and the three major Superfund Sites do not even come close to meeting this standard:

"WITH THE CURRENT HANDLING OF THE NEAL'S LANDFILL NPDES PERMIT BEING THE MOST OBVIOUS EXAMLE OF THIS FAILURE"

The F&WS places major emphasis in data collection on PCBs as the primary pollutant in terms of primary risks associated with the Superfund Sites due to quantities and toxicological properties; from dioxins and furans because of their toxicological properties; and to volatile organics as a third primary pollutant.

F&WS goes beyond this, however, and points out a significant fact to ISDH, that accurate interpretation of the toxicological properties of samples of PCBs collected on the Superfund Sites are very difficult to interpret because specific isomers of PCBs, Dioxins and Furans and volatile organics are not identified. F&WS recognizes the analytical difficulties, but believes EPA should do an estimation of the concentration of these isomers because of the severity of the situation at Neal's Landfill other Superfund Sites.

The F&WS conclusions and recommendations to ISDH are applicable to the RI/FS study of Tetra Tech:

"Implementation of comprehensive Remedial Investigations at these sites should be done to fill all the existing data gaps, and to ascertain what contaminants have entered the ground water, surface water, sediments, and the food chain, since these sites were first discovered."

The Tetra Tech study should obviously have included testing for dioxins, furans, and some of the commoner volatile organics of concern. It is necessary to have hard data on the concentration of the most toxic forms in order to excavate and dispose of the contaminated soils safely. Tetra Tech detected in the north area of the landfill from 5-8 feet bgs at boring NL-SB77 a strong paint solvent odor which persisted a long time after the soil core was recovered and sampled using a respirator.

Tetra Tech also mentions health and safety concerns related to combustible gas indicator (CGI) screening on page 8 of their report. CGI screening of samples was rarely performed because of the need to locate the CGI on the drill rig for health and safety purposes.

The Report in the early 1980s on the surficial examination of Bennett's Quarry includes an account of workers being overcome by toxic fumes and this is probably a hazard to both workers and perhaps others and the environment via ambient air pathways.

EPA'S STATEMENT OF WORK AND SELECTION OF ALTERNATIVES IGNORES BASIC FACT AND EVIDENCE ON WHICH DECISION-MAKING SHOULD BE BASED---NEAL'S

LANDFILL, A GROSSLY-CONTAMINATED SUPERFUND SITE ON THE NATIONAL PRIORITIES LIST LIES-OVER AN AQUIFER WITH KARST CHARACTERISTICS WITH WHICH SOURCE MATERIALS HAVE BEEN IN CONTACT

Tetra Tech reports the salient facts in its section on SITE GEOLOGY AND HYDROGEOLOGY (2.2):

"Numerous sinkholes exist in the site area and are believed to exist beneath the landfill."

"Groundwater flow beneath the Neal's Landfill site is controlled by limestone bedrock. Bedrock samples collected during previous investigations indicate that solution cavities are forming in the limestone at depths up to 25 feet below the groundwater surface. Based on measurements of outcropping bedrock jointing is occurring both at the surface and at depth in the bedrock, Resulting in vertical and horizontal components to groundwater infiltration into the bedrock aquifer. (Powell 1983). A buried valley stream traverses the southeast corner of the site.", and,

"Data from monitoring wells screened in the limestone bedrock indicate that subterranean passages transport groundwater. Groundwater elevation and dye-tracing study information indicates that groundwater flow is northwest. Seeps occurring throughout the landfill are a discharge point for water that has infiltrated through or beneath the landfill. PCB concentrations have been detected in monitoring wells and at the seeps which indicate previous or current contact between source material and water at the site."

Under PROJECT OBJECTIVES (3.0) Tetra Tech notes:

"Data from previous investigations are limited. Previous data do not address 1) whether municipal and industrial wastes at the Neal's Landfill Site are in contact with groundwater; 2) whether solution cavities in the epikarst beneath the site are in contact with groundwater; 3) how groundwater levels beneath the landfill fluctuate over time; and 4) whether leachate exists at the base of the landfill, and if so, at what elevations relative to mean sea level. Information about these issues is necessary to determine the potential for continued off-site migration from the site even after a final remedial alternative, such as landfill capping, is implemented."

The first three issues were not addressed in this remedial investigation although information about these issues is necessary to determine the potential for continued off-site migration from the site even after a final remedial alternative such as landfill capping, is implemented. In the current SA Tetra Tech activities

were limited to identifying "wet" areas of the landfill although the eight piezometers will be used to periodically monitor leachate levels.

In accordance with EPAs instruction Tetra Tech attempted to limit advancement into native material to 3 feet. However because of the similar nature of the fill and native clay, the drillers had difficulty differentiating between the fill and native material, resulting in advancing borings 5-6 feet into native clay material. The FSP should have allowed Tetra Tech to proceed with further sampling to whatever depth where the need to do so was indicated, e.g.:

"native material samples collected from the bottom of several borings contained PCBs at concentrations equal to or exceeding the removal action criteria. Therefore, the vertical extent of contamination in these borings is undefined."

Tetra Tech notes no sampling was conducted south or southwest of borings NL-SB15, NL-SB16, and NL-SB24 where capacitor paper was found, therefore, the source of contamination indicated by historical PCB groundwater detections (Earth Tech 1998) is not fully defined in this area.

The fact that "In accordance with the FSP, borings were not drilled outside landfill boundaries." is in fact, incomprehensible since it is well known that the boundary of Neal's Landfill was not accurately defined and analytical data shows that the extent of PCB contamination is not fully defined in the vicinity of various borings around the perimeter of the landfill.

Tetra Tech's Report also shows that no consistent trends of concentration occur with depth, with high concentrations at both depth (in boring NL-SB52 at 18-21 feet bgs with a concentration of 1805) as well as near the surface (in boring CBS-SB# a 0-3 feet bgs with a concentration of 1200 ppm) and in boring NL-SB19 at 2-3 feet bgs with a concentration of 15,152 ppm). Tetra notes this VARIABILITY to be expected based on the composition of the intermixed zones of waste and clay fill and the heterogeneous nature of the clay fill and native material below the waste and fill.

The hot spots when plotted in terms of areal extent of contamination indicate that other areas have gaps between drill points that are excessive based on extent of variability shown in the first round of sampling.

The concept of using hotspot identification criteria 500 ppm for dry areas and 50 ppm for wet areas and leave the rest of the landfill on site is arbitrary and capricious for the need exists for removing all of the contaminated material off-site from the karst system as the Consent Decree found to be applicable, relevant and appropriate.

As a Superfund National Priorities List Site, A Remedial Investigation/Feasibility Study for Neal's Landfill should conform to Section 300.430 (C) which states that:

"Site specific data needs, the evaluation of alternatives, and the documentation of the selected remedy should reflect the scope and complexity of the site problems being addressed."

The scope and complexity of the site specific data needs cannot be addressed by leaving most of the contaminated wastes on site without adequate sampling or no sampling at all of areas of contaminations below 500 and 50 ppm, whether wet or dry at the point sampled. They will remain a threat to future public health and the environment as they have been for some decades when released into surface waters through leachate and from deep penetration of the wastes into groundwater and into the karst aquifer and drainage system.

Limiting an RI/FS study of Neal's landfill to identifying PCB "hotspots", with off-site disposal of capacitors to an incinerator and material greater than 500 ppm to a chemical waste landfill, the latter estimated around 20,000 cubic yards, simply does not meet data needs nor reflect scope and complexity of the site problems of Neal's Landfill.

----Numerous sinkholes exist in the site area and are believed to exist beneath the landfill.

-----Paragraph 3, page 4 is particularly significant: Groundwater flow beneath Neal's Landfill site is controlled by limestone bedrock. Bedrock samples collected during previous investigations indicate that solution cavities are forming in the limestone at depths up to 25 feet below the groundwater surface. Based on measurements of outcropping bedrock, jointing is occurring both at the surface and at depth in the bedrock, resulting in vertical and horizontal components to groundwater infiltration into the bedrock aquifer (Powell 1983). A buried valley stream traverses the southeast corner of the site.

Under 3.0 PROJECT OBJECTIVES Tetra Tech notes:

-----Previous data do not address (1) whether municipal and industrial wastes at the Neal's Landfill site are in contact with ground water; (2) whether solution cavities in the epikarst beneath the site are in contact with groundwater; (3) how groundwater levels beneath the landfill fluctuate over time; and (4) whether leachate exists at the base of the landfill, and if so, at what elevations relative to mean sea level.

Tetra Tech further notes that information about these issues is necessary to determine the potential for continued off-site PCB migration from the site even after a final remedial alternative, such as landfill capping, is implemented.

Richland Creek has been the receiving stream of north and south tributaries that receive natural surface drainage and that of springs and seeps from Neal's Land fill and it has been contaminated with PCBs since 1967 and dumping of capacitors at the landfill.

Additionally, EPA must address the role of the underground stream that enters Richland Creek some distance down stream from Neal's Landfill. John foster, a Bloomington citizen with first-hand knowledge of much of the receipt and disposition of Westinghouse capacitors and its other toxic wastes at Neal's Landfill has shown Thomas Alcamo, Remedial Project Manager, EPA the location of entry of this stream as well as information about Neal's Landfill, itself.

STATE OF INDIANA PROHIBITS SITING OF SOLID WASTE LANDFILLS IN
KARST TOPOGRAPHY *(Repealed but objective valid)*

IDEM's 1995 Feasibility Study of Alternative Treatment Technologies for Six Sites in Bloomington, Indiana mentions on page 3-6 that:

"One significant potential location-specific ARAR is Indiana Regulation 329 IAC 2-10-1(D), which prohibits the siting of a solid waste landfill in an area of karst topography. Much of the Bloomington area is underlain by karst formations. This situation precludes on-site disposal of treatment residuals and untreated materials at the six sites. Regulation 322-10-1(D) is considered to be an ARAR for any off-site disposal of treatment residuals and to any untreated material."

329 IAC 2-10-(D) states: within areas of karst topography, without provisions to collect and contain all of the leachate generated and without a demonstration that the integrity of the landfill will not be damaged by subsidence;.

The Program Goal of the remedy selection process (Section 300.430 Remedial investigation/feasibility study and selection of remedy) is to select remedies that:

- that are protective of human health and the environment,
- that maintain protection over time,
- and that minimize untreated waste.

All three of these objectives are meaningless under EPA's preferred Alternative 4 since karst is always evolving and toxic

substances will continue to penetrate to native material and groundwater which will pass through horizontal and vertical components in the jointed karst into solution cavities and by a complex system of movement, into the environment often from different directions and numerous exits.

Transporting waste materials over 500 ppm and 50 ppm PCBs wet or dry to an industrial landfill and excavating the remaining contaminated wastes to bedrock to grout the bedrock for a 10 acre landfill acre still over karst is no solution, for karst will find a way to exit into the environment somewhere else. People who live over karst know what they or their neighbour does to alter the (present) natural drainage system on their land will have repercussions elsewhere, changing drainage patterns on some one else's land sometimes as close as their neighbors lands or varying distances.

PREFERRED ALTERNATIVE IS TOTAL EXCAVATION OF NEAL'S LANDFILL TO BACKGROUND LEVEL, BEDROCK WHERE WARRANTED, AND STORAGE OF WASTE MATERIAL IN LEAKPROOF, EARTHQUAKE-PROOF VAULTS ABOVE GROUND, WITH THE ESTIMATED 10-40,000 CAPACITORS STORED SEPARATELY IF THEIR CONDITION WARRANTS.

EPAs proposed Alternative 5 calls for total excavation of the entire landfill to industrial cleanup level of 25 ppm and placement of a soil cover over the excavated area. Since the SA Report indicates high-level concentration of PCBs at or near bedrock and notes PCB concentrations have been detected in monitoring wells and at the seeps, indicating previous or current contact between source materials and water at the site, it is time that it be stopped.

The halfway measures would continue to hold the public health and the environment hostage to what Westinghouse considers at \$16 million cost effective. Simply transporting the wastes to another site in full knowledge that even the best engineered landfills leak, and monitoring is no guarantee that leakage will be corrected in a timely manner, is unacceptable.

EPA should make an estimate of what it will cost to excavate and store the wastes on site or a nearby more appropriate site as an alternative. This will effectively isolate the contamination until detoxification of the wastes can be effectively achieved.

Monsanta as the corporation that produced PCBs should take primary responsibility for detoxification but since PCBs and dioxins/furans are ubiquitous globally, and many corporations in many countries must take blame for the adverse effects these toxin are producing. It should be a global effort among the nations that contributed most to this contamination.

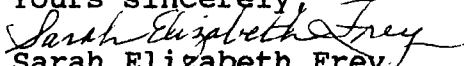
There are precedents to containment by vaulting. EPA considered it as one of the alternatives at the MGM PCB-contaminated Superfund Site in Cloverdale, California, noting that

there are several benefits to containment in a vault. Contaminated soil would be completely isolated from direct human contact, from clean soil and ground water; use of the containment structure would mean the problem is not being moved to another area but is being controlled where it was created; and it would eliminate the potential dangers and costs associated with long-distance transportation.

The preferred alternative of the people in Jacksonville, Arkansas for disposal of dioxin wastes was vaulting but the remedy forced on them was incineration. When the incinerator didn't perform to expectations, it was shut down and the material vaulted.

EPA has permitted storage of PCB wastes from Anderson Landfill and excavation of PCB contaminated stream sediments in a storage facility on The Winston Thomas site in Bloomington, South Walnut Street for many years.

Your consideration of these comments and requests will be appreciated.

Yours sincerely,

Sarah Elizabeth Frey
2625 South Smith Road,
Bloomington, Indiana 47401

T3
2/1/89

February 1, 1999

TO: Derrick Kimbrough, Community Involvement Coordinator,
Office of Public Affairs, Region V U.S. EPA (9-19J), 77 West
Jackson Boulevard, Chicago, Illinois 60604

RE: PROPOSED CHANGES TO THE SOURCE CONTROL REMEDY FOR NEAL'S
LANDFILL near Bloomington, Indiana, by U.S. EPA, December
1998

FROM: Sarah Elizabeth Frey, 2625 South Smith Road, Bloomington,
Indiana 47401

HISTORICAL BACKGROUND

Proposed changes to the source control remedy by U.S. EPA for Neal's Landfill constitutes a drastic change to the Consent Decree (CD) filed in Federal court, Southern District, Indiana, in August 1985, requiring that Superfund Sites of Monroe County and City of Bloomington (MC/CB) be excavated to background level.

EPAs preferred Alternative 4 of its new plan requires excavation and removal of "hot spots" greater than 500 ppm PCBs off-site to an approved landfill. Areas testing below 500 ppm PCBs would be consolidated and moved towards the center of the site, reducing the current 18-acres to 10 acres which would be subsequently capped. Capacitors recovered would be incinerated.

For cost purposes EPA has estimated for alternative 4 ca. 20,000 cubic yards to be disposed of off-site, although 41,000 acres around the contour lines of the hot spots will be tested and if soil is contaminated greater than 500 ppm it too will be removed off-site.

To even suggest that alternatives 2, 3, and 4, "meet the criteria of being protective of public health and the environment" is outrageous. Number 5 is the only alternative which relates in any way to the Consent Decree and only to the extent that the 18 acres of Neal landfill currently estimated at 320,000 cubic yards would be excavated, although limited to industrial cleanup level standard of 25 ppm on average rather than background level.

The Consent Decree (CD) was forged behind closed doors in 1984 and what that meant to the public in the years that followed is essential to understanding what preferred alternative 4 in the proposed plan means today to the public. Simply that W/CBS would be getting an easy way out by incomplete excavation of Neal's Landfill, the estimate being \$16 million for Alternative 4 and \$80 million for Alternative 5, with "Public health and the Environment" continuing at risk---extent unknown---for a cost-effective, but unacceptable action favoring Westinghouse/CBS (W/CBS), the Principal Responsible Party (PRP).

Region 5 U.S.EPA, in a 1990 letter to U.S. Representative, Lee Hamilton, responding to questions asked Hamilton by the Bloomington Common Council, noted that EPA must consider many factors in choosing cleanup technologies: 1) the willingness of a party to conduct a cleanup; 2) the commercial availability of a technology for a commercial site; 3) other contaminants, cost, the time necessary to implement a cleanup, and 4) site specific characteristics.

Westinghouse did not come willingly to assumption of responsibility for the cleanup of the landfills and dumps it contaminated in the MC/CB area, despite obvious and clear evidence that Westinghouse was the FRP, but had to be sued by both the City of Bloomington and EPA (United States). Westinghouse has been a very recalcitrant PRP dragging out negotiations to an unconscionable degree.

Nevertheless, EPA showed clearly in provisions of the Consent Decree its willingness, aided and abetted by the City of Bloomington, to grant WESTINGHOUSE, the PRP, choices and prerogatives for the cleanup favorable to the polluter, not the public and its environment that had been exposed to air, land and water pollution of PCBs on a large scale since Westinghouse began using PCBs in capacitors in 1957-58, with over 200 sites identified as contaminated with PCBs in Monroe County/City of Bloomington (MC/CB) area by a search committee.

The occupational health effects experienced by Westinghouse Plant employees and their families were never studied in an epidemiological sense although many workers were heavily exposed and their families exposed indirectly by ignorance of the toxicity of PCBs.

Home sites were contaminated from scavenging of capacitors for copper, and by spreading sewage sludge contaminated with PCBs discharged into the city's sewer system by Westinghouse, on gardens, lawns, and fields, without knowledge of its harmful effects. Others from contamination with PCBs from ambient air pathways and from direct contact in many instances unknowingly. The Monroe County Health Department received numerous letters and phone calls from residents living near the dumps protesting the burning and other objectionable practices followed at the dumps.

Fell Iron & Metal in downtown Bloomington, not far from the Courthouse, has been an infamous site where hundreds of capacitors were dumped and PCBs incorporated in the soils. The PCB smell could be picked up some distance from the site and PCBs were disseminated broadly outside Fells via runoff and through volatilization when it rained or in hot, humid weather.

Fell's is one of the sites responsible for contamination of Clear Creek and data collected in the sediment along the railroad track east of Fells in 1991 contained 53 ppm, indicating a present risk. Despite the recent cleanup, the ambient air in the vicinity

of Fell's still reeks of PCB odors, testimony to the fact that PCB sites should be cleaned up as closely as possible to bedrock (where contaminated to that point) and background level.

MYSTERY OF THE ROD/EDD

The EPA Record of Decision/ Enforcement Decision Document (ROD/EDD) for the Consent Decree (CD) should be compulsory reading for Bloomington citizens. EPA signed the (ROD/EDD) on December 4, 1984, prior to submission of the CD to the public on December 5, 1984, making a mockery of the public comment period. The ROD/EDD was not published in the Federal Register at the time it was signed, a required practice, and local and state officials did not receive copies.

INPIRG filed a FOIA request for a copy of the ROD/EDD to Region V EPA more than a year after filing of the Consent decree in Court in 1985, but even then it took a couple of months to receive the ROD/EDD. The reasons given for the secrecy was to expedite adoption and implementation of the Consent Decree.

NO REMEDIAL INVESTIGATION/FEASIBILITY STUDY (RI/FS) NOR AN EIS PREPARED FOR PUBLIC

EPA did reconnaissance surficial investigations of the Superfund Sites in early 1980s and removed capacitors from the surface or buried them as in the case of Neal's Landfill, but no study was submitted to the public of the scope of contamination of the sites nor of incineration as the Consent Decree remedy. After reading the Consent Decree, citizens asked EPA immediately for a Remedial Investigation/Feasibility Study (RI/FS) since an RI/FS is required under CERCLA for Superfund/National Priority List sites. Citizens also requested that Fell Iron and Metal be included in the Consent Decree as a Superfund site.

At first EPA said they didn't have to do an RI/FS, and when citizens asked for an EIS under NEPA since the cleanup represented a major federal action that would impact the quality of the human environment, it was also denied. When citizens sued, EPA replied they had done a "functional equivalent", but the functional equivalent was never presented to the Court and the Court never required that EPA present the evidence. In fact the Courts gave the Consent Decree jurisdictional status considered it inviolate, and the case was not heard on its merit.

Hugh Kaufman, of EPA staff in the Hazardous Waste Management office, Washington, D.C. testified in an affidavit that he knew of no other community denied an RI/FS for a Superfund site and MC/CB had 3 landfills on the National Priority list.

When Dan Hopkins, former EPA Project Manager was asked why an RI/FS or an EIS was not made, he simply replied that "Westinghouse didn't want one" and Westinghouse confirmed this when talking to an

EPA Ombudsman.

Region 5 EPA and still higher EPA officials considered getting the Principal Responsible Party, Westinghouse, to pay for the cleanup, more important than the public good and the will of the people. A case of the end not justifying the means at the expense of the public.

Citizens learned later that prior to negotiation of the Consent Decree EPA had conducted what they called an RI/FS for Neal's Landfill, recommending removal of the contaminated soils from the sites, but did not consider incineration a remedy.

Much later, after citizens contacted an EPA Ombudsman to secure what EPA considered a "functional equivalent", the Ombudsman received the documents and concluded that the documents did not qualify as an RI/FS "functional equivalent." Too late for any citizen satisfaction.

INCINERATOR PERFORMANCE AS AN EPA FANTASY

Incineration was chosen as the technology for the MC/CB cleanup, despite public opposition. Westinghouse which was in the incinerator business at the time was given authority under the Consent Decree to build its own type of incinerator---the O'Connor Rotary Combustor---and build it on land provided by the City of Bloomington on South 37 near the Bloomington Sewage Disposal Plant. Topping the deal was the provision that the City of Bloomington would provide Municipal Solid Waste (MSW) to fuel the hazardous waste incinerator, and pay tipping fees which would help Westinghouse defray the cost of building and operating the incinerator.

The entire remedy of the Consent Decree was experimental. Not only burning of HIGHLY CONTAMINATED SOILS in such vast amounts (estimated by EPA at 650,000 cubic yards) in a rotary incinerator, and using MSW as fuel for a hazardous waste incinerator, but also without knowing the identity of other toxic contaminants in the soils with which PCBs and dioxins and furans were inextricably mixed.

At the same time, a national movement toward recycling, recovery and reuse of the Nation's solid waste had begun and the Bloomington public was outraged that the City would commit even a part of its municipal waste, particularly paper, to such an experiment when Bloomington citizens were requesting a city-sponsored recycling program.

Even beyond that, the Consent Decree included a provision that allowed Westinghouse to select an alternative technology if the preferred remedy of incineration didn't work, provided the alternative could achieve a level of PCB destruction equal to or greater than that provided by incineration.

No Westinghouse O'Connor Rotary Combustor had ever been tested, certified or operated as a Hazardous Waste Incinerator and it had a reputation for leaking at its seals. The City of Bloomington had an understanding with Westinghouse that they would build an experimental pilot facility to test destruction removal efficiency (DRI) of the proposed incinerator, but the pilot plant never materialized, nor did the W/CBS idea of using its Panama City, Florida incinerator as a substitute pilot plant, work out.

A large segment of the MC/CB community opposed incineration as a hazardous waste/municipal waste technology from first suggestion of its use as a remedy for the MC/CB Superfund Sites, on grounds that IT WAS NOT A PROVEN TECHNOLOGY. Certainly EPA had APPROVED incineration as a technology, but they had not proven it safe to use for SOILS heavily contaminated with toxic substances and fueled by municipal waste, and all incinerators have a record of MALFUNCTION.

The discussion of hazardous waste incineration and municipal waste incineration which EPA published in the Federal Register with their proposed rules for regulation on December 20, 1989 and April 27, 1990 revealed that contaminants emitted from the stack under "normal" operating conditions cannot be monitored and measured continuously and spot sampling for specific contaminants under contrived ideal test conditions is scarcely an answer for estimating quantities of toxic substances released via the stack.

PICs (products of incomplete combustion), POHCs (principal organic hazardous constituents), (PM), particulate matter, and toxic heavy metals cannot be continuously identified or measured in the emissions but surrogates are used and EPA depends on GOOD COMBUSTION PRACTICES (GCP) for efficient and reliable operation, with limits on CO emissions, controlled loading of wastes, flue gas temperature at the inlet to the PM control device, and operator certification and training requirements to achieve GCP.

The problem with GCP is that incinerators routinely malfunction and the amount of toxic material emitted at such times can be substantial. All incinerators have escape valves and may be used to by-pass the stack when considered necessary.

Controlled loading of an incinerator is also a sometime thing, particularly when you don't know what's in the waste, and sampling and analysis techniques for feeding MIXTURES of toxic substances in soil into the incinerator is severely limited. The public was assured by an EPA scientist in the Memo submitted to the Judge with the Consent Decree in 1985 that the incinerator would be maintained at a temperature of 1200 degrees F, which would consume PCBs and dioxins and furans, but incineration never works perfectly and even if it worked at a 99.99% DRE (which it usually doesn't even in "perfect condition dream tests") incinerators are known to release unburned (PICs), products of incomplete combustion, at a rate of 7,000 lbs/year or more, including PCBs and dioxins and

furans.

EPA seldom mentions "fugitive emissions" but they escape from incinerators in quantities equal to or more than PICs, and "fugitive emissions" from other routes, accidental releases during excavation, transport, storage, and handling may be considerable.

CITIZENS OPPOSED TO PCB ASH (COPA)

A general MC/CB consensus against incineration accelerated when citizens learned that Westinghouse had chosen a site for an incinerator ash landfill along Bottom Road, and that they could not only be exposed to highly toxic chemical compounds emitted from the stack but the better the performance of the incinerator and its pollution control equipment, the greater retention of highly toxic substances in the mountainous quantities of fly and bottom ash that would be moved into their vicinity. This resulted in a group of Citizens Opposed to PCB Ash being formed.

The fact that the contaminated soil would not be reduced in size with incineration and actually increase with use of MSW as a fuel, and the opinion of a consultant(s) that the site chosen on Bottom Road was unacceptable for a Hazardous Ash Landfill, resulted in a public appeal to MC/CB Representatives to the State Legislature for a study of alternatives to incineration.

A bill was passed by the Assembly requiring a 2-year study of alternative technologies/remedies by the Indiana Department of Environmental Management (IDEM). None of the alternatives studied seemed feasible for the size and scope of the MC/CB Superfund NPL Sites contaminated soils, nor sufficiently safe in operation and by-products.

TETRA TECH'S FINAL DATA EVALUATION REPORT FOR REMEDIAL INVESTIGATION/FEASIBILITY STUDY, SAMPLING AND ANALYSIS ACTIVITIES, NEAL'S LANDFILL SITE, MONROE COUNTY, INDIANA, NOVEMBER 30, 1998, AND,

U.S. EPA'S PROPOSED PLAN FOR THE SOURCE CONTROL RECORD OF DECISION AMENDMENT AT NEAL'S LANDFILL, DECEMBER 1998

Judge Dillin's action is understandable with MC/CB having a serious problem with PCB contamination dating back to Westinghouse's continuous dumping of capacitors from 1958 to 1964 in Lemon Lane, 1966-68 in Neal's Landfill, Neal's Dump 1969-71, and in Bennett's Quarries Dumps for an extensive but indeterminate period of time, accompanied by hazardous waste escaping by various routes into the local environment for four decades.

It is also understandable that Judge Dillin has recently extended the deadline for cleanup into the next century, given

the size, scope, and cost associated with cleanup of the National

Priority List sites and recalcitrance of the Principal Responsible Party.

The Tetra Tech RI/FS study contracted by U.S. EPA was limited by the Statement of Work by what it could and could not do, limiting it as a basis for decision-making:

1) PCBs is the only hazardous waste tested for in the RI/FS. PCBs may be the principal hazardous waste at Neal's Landfill in terms of volume with an EPA estimate of 10,000 and as many as 40,000 capacitors dumped at the site (EPA Fact Sheet). PCBs may also be the most widely distributed contaminant since Tetra Tech notes in the RI/FS that "Analytical data obtained by Tetra Tech and PSARA indicate that PCB contamination extends throughout the landfill at various concentrations."

Trichloroethylene was also one of the principal toxic substances dumped by Westinghouse in large quantities, but many other highly toxic contaminants, some more toxic than PCBs, have been collected and documented from Neal's landfill, and they should have been or should be identified and quantified.

PCBs have been spreading both horizontally and vertically and mixing with other organic contaminants and metals and metallic compounds for decades and BURNING OCCURRED AS PART OF THE DISPOSAL PROCESS of capacitors as well as for compacting wastes. Dioxins and Furans have formed when PCBs were burned at low temperatures and more highly chlorinated PCB congeners occur from biological processes (microbial degradation) after being buried for some time in soil. Neal's is considered a Pandora's box.

Charles Anderson whose job it was to scavenge capacitors for copper and solder for the money it brought, has said that he and his helpers took care of 200 or so capacitors per week for nearly three years. EPA says the dump was used by Westinghouse from 1966-67 but the workers say it was sometime in 1968 when the State finally closed-down dumping of capacitors. The dumping of large quantities of clay, PCB-saturated sawdust and contaminated rags and other toxic wastes from Westinghouse continued till the dump was supposedly closed in 1972.

According to 2 letters from the Indiana State Board of Health (ISBH), however, it was still operating as an open uncontrolled dump on November 10, 1976 when an inspection revealed dumping of trash and garbage without proper compaction and cover in violation of the Refuse Disposal Act. The ISBH gave owner of the dump 30 days to cover the dump with 2 feet of fill but it was still not completed by an inspection of December 28, 1976.

Among the materials picked up by Neal's from Westinghouse in addition to PCBs and Trichloroethylene were xylol, toluol, paint, zinc hydroxides,, cutting oils, mineral oil, varnish (toluol thinner), scrap blocks of silicon carbide, polyester resin-mica, aluminum foil, paper, cardboard, polypropylene film, rubber, cork

sheet, asbestos board, glass-polyester board, paint filter-paper, scrap metal (iron and stainless), with quantities varying from small to large amounts, paper, cardboard, and propylene film being dumped in large amounts and silicon carbide, polyester-mica, aluminum foil, and scrap metal in moderate amounts.

Westinghouse reported in its September 1985 Site Safety Plan of the expected occurrence of Trichloroethylene; Methylene Chloride; 1,2,trans-dichloroethylene; Toluene; Vinyl Chloride; Ethyl Benzene; Benzene; and Carbon Tetrachloride at the Neal Landfill, and the State of Indiana reported to Westinghouse in 1985 the presence of Polychlorinated Dibenzo Furans and Polychlorinated Dibenzo Dioxins (also reported by EPA) and asked that they be included in the safety plan.

The Feasibility Study (FS) of Alternate Treatment Technologies For Six Sites in Bloomington, Indiana, prepared for the Indiana Department of Environmental Management (IDEM) by PRC Environmental Management Inc. June 27, 1995, considered PCBs, Dioxins, and Furans primary contaminants of concern under the Consent Decree but also listed other contaminants of concern (and their concentrations) for Neal's Landfill for surface water (on-site springs): PCBs; Trichloroethylene; Aluminum; Arsenic; Boron; Chromium; Cobalt; Heptachlor; Lead; Sodium; Vanadium; and Zinc.

For Groundwater IDEM lists contaminants of concern: PCBs; Chloroethane; 1,1,1-Trichloroethane; Trichloroethylene; and Vinyl chloride. For Surface Soil: PCBs, Dioxins, and Furans. Ambient Air: PCBs; Sediment (Conard's Branch); and for Soil Borings, Dioxins.

The IDEM study gave a range in surface soil concentration of PCBs of 79,000 to 136,000 ppm. The study also reported high concentrations of Calcium, Iron, Sodium, Aluminum, and Magnesium, in that order in leachate.

The Fish & Wildlife Service (F&W), Bloomington Field Office, in its critique of the Draft Report (November 1993) of the ISBH entitled "Preliminary Data Evaluation and Pathways Analyses Report for Consent Decree PCB Sites, Bloomington, Monroe County and Spencer, Owen County, Indiana, in a letter of January 24, 1994 to Dr. Greg Steele, ISBH, questioned the superficial nature of the sampling efforts, lack of sampling design to ensure representativeness; and undocumented quality assurance information, and noted:

"Unfortunately, it is likely that all of these sites are continuing to leak PCBs to nearby groundwater and surface water.", and,

"Probably, the most compelling weakness is the general lack of dioxin and furan data throughout the sites, especially where burning was known to occur. (Lemon Lane Landfill, Neal's Landfill, Bennett's Quarry)."

The F&W letter discussed ambient air pathways, noting that

"After major rainfall events, ambient air in the Stout's Creek corridor, is noticeably impaired, and would appear to be a significant risk to residents of nearby homes. Similar ambient air situations occur after measurable rainfall events in Conard's Branch (recipient of Neal's landfill effluent/leachate runoff), at the Illinois Central Railroad Seeps (ICS) and in the unnamed tributary to Clear Creek downstream of the ICS, and Clear Creek."

The F&WS also noted that they had collected sediments in 1991 from Conard's Branch that contained PCBs ranging from 2.85-13.99 ppm, quite significant since bioaccumulation occurs more rapidly and to much higher levels in aquatic food chains.

The F&WS further stated that site-specific surface water data can be compared to EPA's PCB ambient water quality criteria of protection of human health for consumption of aquatic organisms and drinking water 0.079 ng/l (ppt) (associated with a 1×10^{-6} cancer risk) and the three major Superfund Sites do not even come close to meeting this standard:

"WITH THE CURRENT HANDLING OF THE NEAL'S LANDFILL NPDES PERMIT BEING THE MOST OBVIOUS EXAMPLE OF THIS FAILURE"

The F&WS places major emphasis in data collection on PCBs as the primary pollutant in terms of primary risks associated with the Superfund Sites due to quantities and toxicological properties; from dioxins and furans because of their toxicological properties; and to volatile organics as a third primary pollutant.

F&WS goes beyond this, however, and points out to ISBH the fact that accurate interpretation of the toxicological properties of samples of PCBs collected on the Superfund Sites are very difficult to interpret because specific isomers of PCBs, Dioxins and Furans and volatile organics are not identified. F&WS recognizes the analytical difficulties, but believes EPA should do an estimation of the concentration of these isomers because of the severity of the situation at Neal's Landfill and other Superfund Sites.

Did Tetra Tech do any study of specific PCB isomers at Neal's Landfill? If not, why not?

The F&WS conclusions and recommendations to ISDH are applicable to the RI/FS study of Tetra Tech:

"implementation of comprehensive Remedial Investigations at these sites should be done to fill all the existing data gaps, and to ascertain what contaminants have entered the ground water, surface water, sediments, and the food chain, since these sites were first discovered."

The Tetra Tech study should obviously have included testing for dioxins, furans, and some of the commoner volatile organics of concern. It is necessary to have hard data on the concentration of the most toxic forms in order to excavate and dispose of the contaminated soils safely. Tetra Tech detected in the north area of the landfill from 5-8 feet bgs at boring NL-SB77 a strong paint solvent odor which persisted a long time after the soil core was recovered and sampled using a respirator.

Tetra Tech also mentions health and safety concerns related to combustible gas indicator (CGI) screening on page 8 of their report. CGI screening of samples was rarely performed because of the need to locate the CGI on the drill rig for health and safety purposes.

The Report in the early 1980s on the surficial examination of Bennett's Quarry includes an account of workers being overcome by toxic fumes and this is probably a hazard to both workers, and the environment via ambient air pathways.

EPA'S STATEMENT OF WORK AND SELECTION OF ALTERNATIVES IGNORES A BASIC FACT AND EVIDENCE ON WHICH DECISION-MAKING SHOULD BE BASED--- NEAL'S LANDFILL, A GROSSLY-CONTAMINATED SUPERFUND SITE ON THE NATIONAL PRIORITIES LIST LIES-OVER AN AQUIFER WITH KARST CHARACTERISTICS WITH WHICH SOURCE MATERIALS HAVE BEEN IN CONTACT

Tetra Tech reports the salient facts in its section on SITE GEOLOGY AND HYDROGEOLOGY (2.2):

"Numerous sinkholes exist in the site area and are believed to exist beneath the landfill."

"Groundwater flow beneath the Neal's Landfill site is controlled by limestone bedrock. Bedrock samples collected during previous investigations indicate that solution cavities are forming in the limestone at depths up to 25 feet below the groundwater surface. Based on measurements of outcropping bedrock jointing is occurring both at the surface and at depth in the bedrock, resulting in vertical and horizontal components to groundwater infiltration into the bedrock aquifer. (Powell 1983). A buried valley stream traverses the southeast corner of the site.", and,

"Data from monitoring wells screened in the limestone bedrock indicate that subterranean passages transport groundwater. Groundwater elevation and dye-tracing study information indicates that groundwater flow is northwest. Seeps occurring throughout the landfill are a discharge point for water that has infiltrated through or beneath the landfill. PCB concentrations have been detected in monitoring wells and at the seeps which indicate previous or current contact between source material and water at

the site."

Under PROJECT OBJECTIVES (3.0) Tetra Tech notes:

"Data from from previous investigations are limited. Previous data do not address 1) whether municipal and industrial wastes at the Neal's Landfill Site are in contact with groundwater; 2) whether solution cavities in the epikarst beneath the site are in contact with groundwater; 3) how groundwater levels beneath the landfill fluctuate over time; and 4) whether leachate exists at the base of the landfill, and if so, at what elevations relative to mean sea level. Information about these issues is necessary to determine the potential for continued off-site migration from the site even after a final remedial alternative, such as landfill capping, is implemented."

In accordance with EPAs instruction Tetra Tech attempted to limit advancement into native material to 3 feet. However because of the similar nature of the fill and native clay, the drillers had difficulty differentiating between the fill and native material, resulting in advancing borings 5-6 feet into native clay material. The FSP should have allowed Tetra Tech to proceed with further vertical sampling to whatever depth the need to do so was indicated, e.g.:

"native material samples collected from the bottom of several borings contained PCBs at concentrations equal to or exceeding the removal action criteria. Therefore, the vertical extent of contamination in these borings is undefined."

Tetra Tech notes no sampling was conducted south or southwest of borings NL-SB15, NL-SB16, and NL-SB24 where capacitor paper was found, therefore, the source of contamination indicated by historical PCB groundwater detections (Earth Tech 1998) is not fully defined in this area.

The fact that "In accordance with the FSP, borings were not drilled outside landfill boundaries." is in fact, incomprehensible since it is well known that the boundary of Neal's Landfill was not accurately defined and analytical data shows that the extent of PCB contamination is not fully defined in the vicinity of various borings around the perimeter of the landfill.

Tetra Tech's Report also shows that no consistent trends of concentration occur with depth, with high concentrations at both depth (in boring NL-SB52 at 18-21 feet bgs with a concentration of 1805) as well as near the surface (in boring CBS-SB# a 0-3 feet bgs with a concentration of 1200 ppm) and in boring NL-SB19 at 2-3 feet bgs with a concentration of 15,152 ppm). Tetra notes this VARIABILITY to be expected based on the composition of the intermixed zones of waste and clay fill and the heterogeneous

nature of the clay fill and native material below the waste and fill.

The hot spots when plotted in terms of areal extent of contamination indicate that other areas have gaps between drill points that are excessive based on extent of variability shown in the first round of sampling.

The concept of using hotspot identification criteria 500 ppm for dry areas and 50 ppm for wet areas and leave the rest of the landfill on site is arbitrary and capricious for the need exists for removing all of the contaminated material above the karst system off-site as the Consent Decree found to be applicable, relevant and appropriate in 1984-85.

Where did the 500 ppm PCBs cutoff for dry areas originate? What is its significance? The rationale is not stated.

As a Superfund National Priorities List Site, A Remedial Investigation/Feasibility Study for Neal's Landfill should conform to Section 300.430 (C) which states that:

"Site specific data needs, the evaluation of alternatives, and the documentation of the selected remedy should reflect the scope and complexity of the site problems being addressed.", also,

The Program Goal of the Remedy Selection Process (Section 300.430) is to select remedies:

"That are protective of human health and the environment, that maintain protection over time, and that minimize untreated waste."

EPA is placing reliance on a RCRA Cap for isolating the great majority of the 325,000 cubic yards to be left on Neal's Landfill. This cap will consist of 6 inches of top soil, 2 feet of clean fill to prevent the clay layer from being affected by frost, a minimum of 40 millimeters flexible membrane liner, and 2 feet of compacted clay. The proposed plan also indicates that areas outside the landfill cap with PCB levels as high as 25 ppm PCBs on average must have a 10" soil cover.

The scope and complexity of the site and its specific data needs cannot be addressed by leaving most of the 325,000 cubic yards of contaminated soils on site without adequate sampling. Levels of PCBs below 500 ppm to ground level in the remainder of the dump constitute not only significant volumes of PCBs but probably substantial levels of toxicity even if less than 500 ppm. Whatever is not removed remains a threat to future public health and the environment as PCBs have been for several decades when released into surface waters through leachate, and from deep penetration of the wastes into groundwater and into the karst aquifer and its drainage system.

How much of the toxic wastes remaining on-site can be prevented by a RCRA cap from continuous downward leaching into bedrock and disseminated into the environment through the subterranean karst system? How much infiltration into the residual 10 acre landfill will occur from surface seepage, seeps and springs and sinkhole activity within and without the RCRA cap boundaries as part of a karst drainage system response to heavy rains?

Karst is always evolving in different ways and directions and a cap over the top of a landfill over karst could never be expected to provide protection or isolation of these toxic materials from the environment for any length of time from anything as complex and unpredictable as karst hydrology.

Additionally, EPA must address the source of the underground stream that enters Richland Creek some distance down stream from Neal's Landfill. John Foster, a Bloomington citizen with considerable first-hand knowledge of Neal's Landfill, has shown Tom Alcoma point of entry of this stream as well as information about the history and nature of the Landfill, itself.

STATE OF INDIANA PROHIBITED SITING OF SOLID WASTE LANDFILLS IN KARST TOPOGRAPHY

IDEM's 1995 Feasibility Study of Alternative Treatment Technologies for Six Sites in Bloomington, Indiana mentions on page 3-6 that:

"One significant potential location-specific ARAR is Indiana Regulation 329 IAC 2-10-1(D), which prohibits the siting of a solid waste landfill in an area of karst topography. Much of the Bloomington area is underlain by karst formations. This situation precludes on-site disposal of treatment residuals and untreated materials at the six sites. Regulation 322-10-1(D) is considered to be an ARAR for any off-site disposal of treatment residuals and to any untreated material."

What is the status of Regulation 329 IAC 2-10-1(D)---is it true that it was repealed or is it still on the books? It is a regulation that should stand the test of time, for just as a home should never be built on sand, neither should dumping of solid wastes (let alone toxic chemicals like PCBs) be allowed over KARST.

PREFERRED ALTERNATIVE IS TOTAL EXCAVATION OF NEAL'S LANDFILL TO BACKGROUND LEVEL, BEDROCK WHERE WARRANTED, AND STORAGE OF WASTE MATERIAL IN LEAKPROOF, EARTHQUAKE-PROOF VAULTS ABOVE GROUND, WITH THE ESTIMATED 10-40,000 CAPACITORS STORED SEPARATELY IF CONDITION WARRANTS.

EPAs proposed Alternative 5 calls for total excavation of the entire landfill to industrial cleanup level of 25 ppm and placement of a soil cover over the excavated area.

Since the the SA Report indicates high-level concentrations of PCBs at or near bedrock and notes concentrations of PCBs have been detected in monitoring wells and at the seeps, Conard's Branch and Richland Creek indicating both previous and current contact between source materials and water at the site, it is long past time that it be stopped.

What EPA/Westinghouse/CBS are now proposing cannot even be termed halfway measures toward a Neal's cleanup, which will leave the public and its environment still hostage to 300,000 cubic yards of poorly characterized toxic-contaminated soil, which Westinghouse/CBS, the PRP, considers a cost-effective cleanup at \$16 million.

EPA and the public has expressed opposition to simply transporting toxic materials from one site to another site. Transporting Neal's landfill to a chemical landfill north of Detroit, in full knowledge that ALL LANDFILLS LEAK, and state of the art engineering is no guarantee that leakage of that landfill, would be corrected in a timely manne, is unacceptable.

There is no hiding place down here. Monsanto, the corporation that brought PCBs into being, and chemists of other corporations that helped spread PCBs ubiquitously, and government agencies involved with hazardous wastes, should devote whatever time and money it takes into disassociation of PCBs into harmless substances.

Until that is accomplished, EPA should consider vaulting on site as a legitimate alternative, and make an estimate of cost of containment and isolation of Neal's Landfill above ground in leakproof, earthquake-proof vaults. Methods for reducing actual load to be vaulted should be considered e.g. detoxifying and reduction of large objects such as appliances and cars dumped in Neal's Landfill.

There are precedents to isolation by vaulting. EPA considered it as one of the alternatives at the MGM PCB contaminated Superfund Site in Cloverdale, California, noting that there are several benefits to containment in a vault:

"Contaminated soil would be completely isolated from direct human contact, from clean soil and ground water; use of the containment structure would mean the problem is not being moved to another area but is being controlled where it was created; and it would eliminate the potential dangers and costs associated with long distance transportation."

The preferred alternative of citizens of Jacksonville, Arkansas for disposal of dioxin wastes was vaulting but the remedy forced on them was incineration. When the incinerator did not perform to specifications, it was shutdown and the material vaulted.

EPA has permitted storage of PCB wastes from Anderson Landfill and excavation of PCB contaminated stream sediments etc. in a storage facility on the Winston Thomas PCB Site on South Walnut Street in Bloomington for many years. While the construction of that facility is not sufficient for vaulting of highly toxic wastes, that is an obvious precedent for containment and isolation.

Your consideration of these comments and requests in decision-making would be appreciated.

Yours sincerely,


Sarah Elizabeth Frey

2625 South Smith Road
Bloomington, Indiana 47401

cc: Monroe County Commissioners
John Fernandez, Mayor
Bloomington City Council
Indiana Department of Environmental Management

Public Comment (Neal's Landfill)

T3
2/2/99
Postmarked
2/2/99
OK

To whom it may concern:

I am writing to give my comments on the clean up of Neal's landfill. I am a student of Indiana University and I have great concern for the people and wildlife adjacent to this site. First, I believe if your going to complete a project such as this you should do it to your fullest potential; preventing as much long-term effects as possible. Although, after reading and reviewing the five alternatives I don't think this is possible. Alternative 5, which has the fullest potential cleanup must be ruled out do to its excessive cost, and comparability to alternative 4. The Evaluation of Source Control Remedy's showed both alternative 4 and 5 meeting the same criteria with very large cost differences. The one thing that still worries me is the material, which will still exist using the forth alternative. Will it cause more problems in the future? I know one thing, this won't ever be a desired piece of property, its original state has been destroyed where no reasonable person would ever do anything with it knowing its history. So as long as the PCB's aren't causing any harm I say this is a satisfactory grave for the remaining materials.

My final thoughts are concerning alternatives 2 and 3. I don't think you should choose an alternative based on the implication that is meets the federal, state, and local requirements (2 & 3). I definitely think action should go beyond that. If we choose these alternatives we face a greater chance of facing more problems and spending more money in the future.

Based on my personal opinion and the facts given to the public I think alternative 4 is the best plan of attack.

Bruaene
student

Bloomington, IN 47405

Derrick Kimbrough
Office of Public Affairs
77 West Jackson Boulevard
Chicago, IL 60604-3590

Postmarked
@ 2/2 DK

T3
2/4/89

Dear Mr. Kimbrough,

Alternative four is the best option for Neil's Landfill. There are several reasons alternative four is the most balanced attack for removing PCB contaminants. This option goes beyond the environmental and human health requirements of the federal government. It greatly reduces the amount of contaminants and also removes the capacitors that would eventually allow further leaching of PCB contaminants. Many important stakeholders already agree that the option is acceptable. It is time to get the removal process started and both IDEM and the USEPA accept alternative four. Although hearing all potentially affected parties is essential, there has already been too much time and money wasted in public discussion and litigation. All views have been heard many times over.

Obviously, the best alternative would be number five. If it was feasible I'm sure all parties would be for one hundred percent removal of contaminants. This process would more than quadruple the cost of option four. Westinghouse/CBS would fight this even harder than option four. Option five could also take too much away from hundreds of other treatable Superfund Sites around the country.

None of these alternatives mention anything besides the levels of removal and treatment. Many living entities have been affected by dumping and spreading of PCBs. Perhaps further compensation could be given to people who lived nearby. Funding for continued studies of the affected wildlife would also be beneficial in helping the area be properly restored.

It is clear that alternative four is the most accepted by primary regulators and decision makers. By no means should any alternative achieving less than option four be considered. However, attempting to achieve a total cleanup is not realistic.

Sincerely,



Crabtree
SPEA Student

Bloomington IN 47406

73
2/2/99

Kalen Ritz
629 South Woodlawn
Bloomington, IN 47401
Email: kritz@indiana.edu

February 1, 1999

Mr. Derrick Kimbrough
Community Involvement Coordinator
Office of Public Affairs
U.S. EPA (P-19J)
77 West Jackson Boulevard
Chicago, IL 60604-3590

postmarked
2/2 DK

RE: Neal's Landfill Site Public Comment

Dear Mr. Kimbrough:

As an Indiana University student studying Environmental Management in the School of Public and Environmental Affairs, I recently had the opportunity to visit Neal's Landfill and the surrounding land. In addition, I have also read the proposed alternatives. After integrating my knowledge of the site and the proposed plans, I decided to voice my concerns and preferred option involving the landfill.

Of the five alternatives proposed by the EPA, Alternative 4 seems to best fit the situation, criteria, and demands of Neal's Landfill. Since some course of action is necessary and crucial, Alternative 4 appears to provide sufficient methods to remove a portion of the contaminants. This option also involves consolidation of significantly contaminated material and the placement of a cap over the surface of the landfill. Alternative 4 also seems to be potentially more effective in the long term than several of the options. Another key element that must be taken into account is cost. Although Alternative 5 would enhance the quality of the environment the most, the predicted cost is five times greater than Alternative 4. Providing substantial improvement on environmental quality, the cost estimated for implementing Alternative 4 is significant but feasible.

However, I failed to come across any discussion of addressing water flow issues at Neal's Landfill. During my visit at the site, it was evident that only a minute portion of the water was being treated or handled. Although rain from the previous day exaggerated normal water flow, this clearly can cause potentially detrimental effects to the surrounding environment, people and animals even at normal water levels. I sincerely urge you to consider this obvious water problem when deciding on the fate of Neal's Landfill. Action must be taken to reduce the risk for adversely affecting the surrounding residents and ecosystem.

As a concerned citizen and Bloomington resident, I hope you will continue to listen and account for public input on critical issues such as this landfill cleanup. Not only do I urge you to continue alerting and informing the public, but I also hope you continue assessing the public's opinion and begin allowing further incorporation or participation of interested stakeholders throughout the process. Once again, I stand behind the EPA's recommendation of Alternative 4. Thank you for your time and I wish you the best of luck in remedying the situation involving Neal's Landfill.

Sincerely,

Kalen S. Ritz

Kalen S. Ritz
IU SPEA Student

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LLP
ATTORNEYS AT LAW

TJ
1/19/99

Melina Maniatis Kennedy
(317) 686-7389
E-Mail: MKennedy@jshplaw.com

January 19, 1999

Via Certified Mail
Return Receipt Requested

Derrick Kimbrough
Community Involvement Coordinator
Office of Public Affairs
U.S. E.P.A. Region 5
77 West Jackson Blvd.
Chicago, IL 60604

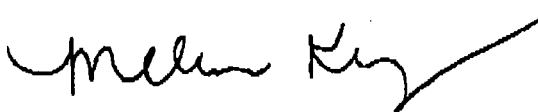
Re: Comments Submitted by Kathy and Craig Taylor;
Neil's Landfill Proposed Plan

To Whom It May Concern:

On behalf of Kathy and Craig Taylor, the owners of the property known as the "Neil's Landfill" site near Bloomington, Indiana, we are hereby submitting the following comments in response to CBS Corporation's "Proposed Plan for the Source Control Record of Decision Amendment at Neal's Landfill," published on December 21, 1998.

The Taylors are concerned with the choice of alternative number 4 in that such alternative permits CBS to ignore PCB contamination as high as 500 ppm at the Neil's Landfill site. The Taylors are concerned that the remaining contamination left behind by CBS Corporation may pose risks to the health and/or the environment and further may significantly affect the Taylors ability to put their land to beneficial use and/or sell the land for a reasonable price.

Respectfully submitted,



Thomas A. Barnard
Melina M. Kennedy
Attorneys for Kathy and Craig Taylor

MMK/lt
cc: Kathy and Craig Taylor
207142

JOHNSON • SMITH

LLP

ATTORNEYS AT LAW

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FROM: *Melina Kennedy*

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TJ
2/3/99

From: Hewitt
To: THOMAS ALCAMO <ALCAMO.THOMAS@epamail.epa.gov>
Date: 2/3/99 9:26am
Subject: Comments on Neal's Landfill cleanup proposal

To whom it may concern:

I do not support Alternative 4 for Phase 1 of the proposed cleanup of Neal's Landfill.

My primary objection is that you have presented the costs, health standards, long term effectiveness, & etc. only of Phase one! How can I decide the best *overall* solutions without knowing the costs, health standards, long term effectiveness & etc. of all phases of all alternatives?

This disjointed process does not serve the best interests of public and environmental health. Alternative 5 is the most expensive. But might it not be true that the Water Treatment and Sediment reduction costs could be cheaper if Phase 1 actions reduce the most contamination possible? Maybe, maybe not, but how can we answer that without knowing the costs and benefits of all phases of all alternatives?

Why are you not approaching this cleanup process as a system? Why do you think it is a better idea to consider each phase separately? You will reach local optima this way, but could easily miss the best solution overall. This approach is unsafe, illogical, and wrong.

Furthermore, why is there such a gap between Alternative 4 and Alternative 5? There's a world of difference (and \$60 million) between 500ppm and 0ppm. Why did you not consider, say cleaning up to 200ppm, 50ppm, and 25ppm? Your 5 alternatives should be called:

Alternative 1: Too ridiculous to consider
Alternative 2: Extremely superficial
Alternative 3: Unsafe and of questionable merit
Alternative 4: Shamefully negligent and dangerously unprotective
Alternative 5: Extremely protective, and the best possible remedy

There is a huge range of possibility between Alternatives 4 and 5 which you didn't consider, giving us (the public) no option except to endorse Alternative 5. Your options are black, black, black, black, and white. We might have compromised on some shade of pale gray if you had given us that choice.

As you well know, levels of 500ppm of PCBs are dangerous, especially when perched upon karst. How dare you call it bedrock, and neglect the defining characteristics of karst. Do you think we are so stupid as to ignore such an egregious euphemism? Karst is not bedrock, and you are deliberately attempting to deceive and wrongfully assure the public when you call it bedrock.

I am very disappointed that the EPA would endorse Alternative 4. I support Alternative 4.8, which is less than ideal, but protective of public and environmental health and safety.

Sincerely yours,

H-witt

Bloomington, IN 47404-2931
812/333-6549

T3
2/1/99

From: Goulet
To: R5AIR.R5ORA(KIMBROUGH-DERRICK)
Date: 2/1/99 12:15pm
Subject: Public Comment Sheet/Neal's Landfill

My name is Jay Goulet and I am a senior at Indiana University. I am commenting on the proposed alternative #4 at Neal's Landfill in Bloomington, Indiana.

The first thing I would like to discuss is the public community meetings. The meetings can get very heated at times. I would like to ask that you (EPA) provide more scientific information to the audience. I think people would not be as easily angered if there was sufficient scientific information that backed up your proposal. The main question was the ground water level and the level that the pcbs were buried in the landfill. The people that come to these meetings, especially in a University Town, are going to come to the meetings with a lot of knowledge on the subject or they wouldn't come to the meeting in the first place.

The first addition to #4 is I would like to see done is more extensive dye testing to see exactly how the Karst limestone geology acts. I think dye testing should be done on the water before the landfill as well as on the landfill. This would better explain where the water is actually flowing and answer many questions to the public. I would also like to see many more core samples to see a better explanation of where the worst of the pcbs lie.

I have seen the site and the treatment plant. I think the current plant was a waste of money. I would like to see the plant expanded to meet the requirements of the landfill and pcb treatment. I would like to see if ground water that was coming into the landfill could be somehow diverted around the landfill. Maybe some kind of modeling could be used to show the public how the water would not get up into the landfill during high flow conditions.

Lastly, I would like to say that alternative #4 sounds like a good alternative. I would like to see these tests done to make sure that the problems would be taken care of. I realize that all of this takes time and anything that is done to the site will make the site better. I also realize the sooner we can get this done, the sooner we will be able to help the problem of pcbs. I just want to make sure the problem is fully looked at and managed in the best way possible.

Goulet

CC: R5CHG.IN("johfrank@indiana.edu","dhenshel@indiana....

T3
2/2/11

Brad Baldwin
Bloomington, IN
47401

Derrick Kembrough
Community Involvement Coordinator
Office of Public Affairs
U.S. EPA (P-19J)
77 West Jackson Boulevard
Chicago, IL 60604-3590

postmarked
2/2 BK

Dear Mr. Kembrough,

I am a resident of Bloomington, Indiana and an undergraduate major of Environmental Management in the School of Public and Environmental Affairs at Indiana University. I have recently come to understand more about the PCB related problems in our area, specifically Neal's Landfill. After examining the proposed alternatives for Neal's Landfill, I now have some comments I would like to make.

I too agree with Alternative 4, as the best action of source control at Neal's Landfill. The fact that Alternative 4 fully meets most of the evaluation criteria, and partially meets the criteria of reduction of toxicity, mobility or volume through treatment, in my mind makes Alternative 4 and 5 the only options. When only evaluating Alternatives 4 and 5, total cost is the main deciding factor. In this case, Alternative 4 is less expensive, leaving money that can be utilized in similar situations of the region. There are other concerns with Alternative 5 as well, such as run-off, transport, etc., which make me lean toward Alternative 4 as the best option.

Although I perceive Alternative 4 as the best option, I am still concerned with the water flow (ground water and surface run-off) of the landfill. In a recent visit I made to Neal's Landfill under rainy conditions, the water flow to the undersized treatment facility was clearly more than could be treated. After the completion of this Alternative, the areas containing 25 ppm PCBs may still escape the area during rainstorms, due to untreated run-off or groundwater. Considering these points, I feel that a more capable water treatment facility should be added to Alternative 4 to insure the least possible leaking into the environment.

I hope that in after choosing an Alternative, implementation will include a very qualified management and project team, which will ensure quality operations at every step of the project, assuring the best was done to protect our environment.

Sincerely,



Baldwin

.....

February 1, 1999

postmarked 2/2/99 T3
(OK)

To Whom It May Concern:

Alternative four is the best plan for the treatment of Neal's Landfill. It covers most of the issues necessary to prevent any more PCB contamination. The removal of 7,000 cubic yards of contaminated material is key for short and long-term effectiveness and performance. Consolidation of less contaminated material is important for the cap to be effective.

The problem that I see the cap may have is during high amounts of rainfall when water may seep under the cap. The cap should be extended into the ground to prevent any seeping of water under the cap.

Finally, alternative four is the best play, but I have some reservations on whether to incinerate the capacitors. I'm not sure of the technology and whether the incinerators will be effective in increasing the quality of life for the community and the environment surrounding Neal's Landfill.

Respectfully yours,



Steve Bozinovski

.....

MEMORANDUM

Date: February 1, 1999
To: Environmental Protection Agency
From: Bourff, Senior at Indiana University studying
Environmental Science Management.
Subject: Proposed Plans for Neal's Landfill

73 2/1/99
postmarked
2/2 (DK)

I am writing you with my comments on the proposed plans for Neal's Landfill.

After review of the facts of Neal's Landfill and a recent on site study, I believe Alternative 4 proposes the best action to be taken. It will remove everything 500ppm PCB's with a "hot spot" excavation and test an estimated 41,000 cubic yards of surrounding area. Anything with a volume at or above 500ppm PCB's will be taken off site for disposal. Anything showing less than 500ppm will be condensed and may be placed in the center of the site reducing the total area from 18 to 10 acres. An RCRA Subtitle C Cap will be used for the remaining acres.

Eight additional capacitors are to be removed and disposed of by incineration. A big concern of mine was the additional contamination of groundwater and waterways as the excavation and transfer is taking place. Considering a long term groundwater plan has not yet been developed, how can this plan ensure 1ppm PCB's drainage water from around the cap and in nearby streams which are a threat to surrounding areas.

Alternative 4 is a good rough draft at a remedy for Neal's Landfill. A detailed groundwater plan must be done before any further consideration of this plan. The waterways are a quick source at spreading contamination to other areas on and off the site. These areas have to be treated with as much concern. Since the detrimental effects of PCB's on our ecological system are not definite, we must treat it accordingly.

T3
2/2/99

From: Eisenhour
To: R5AIR.R5ORA (KIMBROUGH-DERRICK)
Date: 2/2/99 6:25pm
Subject: comment on Neal's dump

Dear Mr. Derrick Kimbrough,

I am writing concerning the Neals landfill propasal. Out of all the choices Alternative 5 is the most preferable, however it does not go quite far enough. It would be good to see it cleaned up even better. Vaulting all the P.C.B.'s and taking them to a more stable location geographically would be better. The area it is on currently is Karst and it is like a seive. Please make the absolute most envirinmentally sound choice to make Bloomington a healthy place to live.

Sorry for sending an e-mail. You may contact me with any further questions or input at: Amy Eisenhour

R 16 Box 498
Bedford, IN 47421

(812) 331 3878

Please refrain from e-mailing me.
I don't get in here very often.

Thanks for you kind and immediate attention to this matter.

Eisenhour

February 1, 1999

postmarked
2/2
DK
T3
2/4/99

Dear Derrick Kimbrough,

I agree with the EPA's opinion that the proposed alternative 4 cleanup plan for Neal's Landfill best meets the evaluation criteria in a timely, cost effective manner. The consolidation of waste to the center of the landfill is particularly important, as large amounts of PCB waste leach from the site during and after periods of heavy rain. I recently visited the site as part of a field trip with an IU course (Risk Assessment) soon after several hours of heavy rain, and the water outflow area smelled strongly of chemicals. The water treatment plant is only able to process a fraction of the outflow during these high-flow periods. I feel that moving the waste to the center of the site will significantly reduce PCB leaching, and lower PCB concentrations of off-site groundwater and sediment.

I am concerned with the provision of the alternative 4 remediation calling for the incineration of recovered PCB oil and capacitors still containing PCB oil. It has long been known that PCBs do not completely combust during the incineration process. One harmful by-product is toxic ash, which must be disposed of carefully. Worse, dioxins and furans that are extremely toxic, and harmful even in tiny concentrations, will inevitably be produced as they are in any incineration process regardless of incinerator design. I understand that the incinerator is engineered to operate at high temperatures to minimize these emissions, but the scientific evidence supporting this practice is mixed. Higher temperatures also volatilize larger amounts of heavy metals such as lead, cadmium, and chromium. Clearly, the EPA should explore other alternatives in disposal methods.

Sincerely,

Dean

Deaner

T3
2/2/99

Derrick Kimbrough
Community Involvement Coordinator
Office of Public Affairs
U.S. EPA (P-19J)
77 West Jackson Boulevard
Chicago, IL
60604-3590

Postmarked
@ 2/2
DK

Farrington

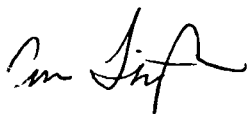
Apartment #4
Bloomington, Indiana 47401

Dear Mr. Kimbrough:

I am writing in response to the remediation process proposed for the Neal's Landfill site in Bloomington, Indiana. I believe that the alternative that would serve the best remedy for this particular situation is the alternative number 4. Alternative number 4 involves excavating parts of the site that contain greater than 500 ppm of PCB's and disposing of them offsite. Also involved would be collecting all of the landfill material into one central location in the center of the site and placing a RCRA approved cap over the landfill material.

The other alternatives proposed would not suffice due to a number of factors. The first alternative, which is taking no action, is obviously not doing an adequate job. This is because from a recent field trip to this site there was a number of pools of water that could possibly seep under the non-approved RCRA cap and possible contamination of groundwater could occur. Alternative number two, placing a RCRA cap over the landfill again doesn't address the issue of seepage from pooling water under the existing cap. Alternative number three, excavating the "hot spots" with off-site disposal and then covering the landfill with a RCRA approved cap, would not be as containing as alternative number 4 that contains the PCB's in one central location. The last alternative of total excavation is not an option due to the quantity of PCB's that we are looking at. The only factor that is not being considered is the unknown factor of amount. We are still not certain the exact amount of PCB's under the non-complaint cap. The only thing that we are sure of is the fact that these PCB contaminants effects many people that live in and around that area and may even effect many, many more if it seeps into the groundwater.

Sincerely,



Farrington

Bloomington, In 47403

U.S. EPA
77 West Jackson Boulevard
Chicago, IL 60604
January 28, 1999

Neal's Landfill Site
Public Comment Sheet

In looking at the five alternatives for what could be done with Neal's landfill, I believe alternative 4 would be the best choice. I believe alternative 4 is the best choice because it reduces the human and ecological risks, while being effective in the long run and cost efficient. Alternative 1 is the worst choice since it does nothing when something must be done. Neal's landfill is not safe the way it is. Alternative 2 is better but is not good enough to reduce risk. Alternative 3 is closer to what needs to be done but it is more of a short-term fix and since PCB's stay in the environment a long time the solution to this problem should be long term. The reason I do not think alternative 5 is a good choice is because of the cost. It seems to me that alternative 5 does not effectively reduce the risk more than alternative 4 does, so there really is no justification to spending five times the money. It seems to me alternative 4 would be the best option out of all of the alternatives.

I do have concerns that major issues have been overlooked, however, when thinking of the alternatives. I think removing everything over 500ppm is a little high, what about 200ppm or even 100ppm? Are these levels safe? There are two other problems that the alternatives do not look into that I think are very important; the problems of water treatment and soil contamination. I think these are problems that can not be overlooked when trying to clean up Neal's landfill. I realize that each plan does have ground water monitoring but that is simply not good enough. This is especially true when a majority of the PCB's that are coming out of the landfill and causing a risk to humans, animals, and the environment are from ground and surface water run off. The water treatment plant at Neal's landfill is not adequate enough to catch enough of the water and during high flow times much of the water never gets treated. More needs to be done in the area of water and soil clean up. Thanks you for letting me express my views on the issue.

Sincerely,



Gordon

postmarked
2/2 DK

T2
2/2/99

Bloomington, IN 47408

February 1, 1999

73/1/69
Postmarked
2/2
DK

Derrick Kimbrough, Community Involvement Coordinator
Office of Public Affairs, US EPA
77 West Jackson Boulevard
Chicago, IL 60604-3590

Dear Mr. Kimbrough:

I recently visited Neal's Landfill in Bloomington Indiana on January 15, 1999. This area, as you know, is a main concern of many individuals throughout Monroe County and beyond. After my brief visit to the site and reading the extensive material concerning the many alternatives, I become interested in the outcome of this matter. The purpose of the letter is to inform you of my recommended changes, which along with the others, will hopefully have an impact on the decision chosen to improve Neal's Landfill and the surrounding areas.

After careful reading of each alternative posed, I believe that Alternative 4 is the best choice in cleaning up Neal's Landfill. When considering the nine evaluation criteria, Alternative 4: Hot Spot Consolidation and RORA Cap, seems to best meet each of the nine criteria. The majority of the nine criteria are fully met, while only one is partially met. These criteria results show significant support for Alternative 4 over the other alternatives. In addition, the total cost seems to be within reason compared to the steep cost of Alternative 5 which is nearly five times the amount, and produces the same results in the evaluation criteria.

Alternative four, EPA's preferred alternative, seems to address the specific problems caused by Neal's Landfill, while proposing a reasonable plan to reduce hazards. With the evacuation of "hot spots" greater than 500 ppm, and disposing this material off-site, potential threats will be eliminated. In addition, consolidating material less than 500ppm PCB's will allow for possible threats to be securely contained to the middle of the site. In addition, the RCRA Subtitle C cap will ensure safety among the 10-acre landfill area. Alternative 4 also addresses the drainage waterways outside the cap and mentions that they will be remediated to 1ppm. Though I agree with Alternative 4, I have a concern for the ground water around the area.

Under option 4 a long-term groundwater monitoring plan will be developed, yet specific plans for this implementation were not mentioned. I feel this is a strong element that must be more thoroughly addressed. During my visit to the site, ground water areas within the site seemed to have a particular smell to them, and though many harmful things are colorless and odorless, I still have a concern that this water should be examined more

Postmarked
2/2 DK

T3
2/2/99

Dear Mr. Kimbrough:

I am writing to make comment on the recommended changes to the remedy for the Neal's Landfill site in Bloomington, Indiana. I feel that the U.S. EPA should follow Alternative 5 and totally excavate the landfill and place a soil cover over the area excavated. To minimize the PCB risk for the future, all the sources of PCB need to be removed from the property. I do feel that there are some options that haven't been considered in the planning process.

Water flow is something I noticed when observing the site. I was at the property on a day when it was very wet and it rained all day. The water treatment plant that treats the water in a stream leaving the north end of the property is designed to treat one cubic foot of water per second. The day that I was there, it was estimated that the water was moving through the stream at 20 cubic foot per second. This is allowing PCB's to go untreated and proceed down the stream that is surrounded by habitat that is perfectly suitable for wildlife. When I arrived at a spot downstream from the treatment plant, I observed that the stream runs parallel to grazing land for beef cattle. The PCB's coming off the Neal's Landfill property that goes untreated by the water treatment plant has a good chance of being taken in by the cattle and any surrounding wildlife in the area. As long as there are PCB's on that property, it is crucial that EPA make a better effort to treat the water coming out of the landfill so we don't cause problems downstream.

Another thing that needs to be implemented is some kind of sediment testing in and around the landfill. If PCB's are coming out of the landfill, then they have to be leaching through into the soils somewhere. If there are spots that are highly concentrated outside of the landfill, they need to be cleaned up so that surrounding wildlife will not be harmed. For all we know, there could be a high concentration of PCB's on the land that the beef cattle are grazing upon. For us to know these types of things, there needs to be testing so we can clean sites up if need be.

To conclude my comments, a complete and total excavation of Neal's Landfill must be done to reduce PCB level as much as possible. I feel that a groundwater-monitoring plan needs to be extensive and last as long as it takes the PCB levels to reach a safe level. I also feel that the treatment of the water running out of the north end of the property needs to be treated more efficiently because during the wet days of the years, the treatment plant is treating hardly any of the water that is running through the stream. The final thing that I would like to see is more sediment testing done on the surrounding areas of Neal's Landfill. The spots that are high in the surrounding areas of the landfill, especially in the areas where houses are located need to be cleaned up. I hope the suggestions that I have made will help in taking the right steps in cleaning up our environment.

Sincerely,



Lawson

Bloomington, IN 47401

January 28, 1999

Derrick Kimbrough
Community involvement Coordinator
Office of Public Affairs
U.S. EPA (P-19J)
77 West Jackson Boulevard
Chicago IL 60604-3590

*Postmarked
2/2 DK*

*73
2/2/99*

Dear Mr. Kimbrough:

As a student of Indiana University, I have had the opportunity to look at the proposals to clean up Neal's Landfill. Although none of the proposals address the serious issues of ground water contamination or soil contamination, Alternative 4 is by far the best method.

Excavation of "Hot Spots" greater than 500ppm along with the consolidation of anything less than 500ppm into the center area are a great step in cleaning up the site. Putting a RCRA cap on top of the consolidated area is a great addition as well.

First, the proposal calls for the removal of contaminants greater than 500ppm, which is the most hazardous in the area. This removal will be disposed of in an appropriate manner at a site that is capable of disposing of the material. This action will remove the most contaminated materials and help stop any pollution from getting out of the site.

Secondly, the consolidation of the rest of the material into the center of the site will help reduce the amount of PCB's that are getting out of the site. Currently, a lot of the of the PCB's are in low-lying area where a lot of water collects. This water then seeps into the ground and runs out taking along the PCB's with it. By moving them to the center, there is less contact.

Finally, the addition of the RCRA cap over the consolidated area will help to prevent any volatilization of the PCB's into the area. This reduces the risk of any airborne contaminant. In addition, the cap also helps to reduce the amount of water that can seep through into the ground water system taking PCB's with it.

As I mentioned before, none of the proposals are totally ideal, but Alternative 4 is by far the best choice. It accomplishes the most in a cost-effective manner that is reasonable for cleanups.

Sincerely,

Mattie

73
2/3/99

COPA

Coalition Opposed to PCB Ash in Monroe County Inc.

3 February 1999

U.S. EPA
77 West Jackson Street
Chicago, Illinois

Tom Alcamo

Reference: Comments Neal's Landfill Proposal

Attached are our comments concerning the proposed action at Neal's Landfill, Monroe County, Indiana.

Sincerely,

Mike Baker

**COMMENTS RELATING TO THE REPORT: FIELD DATA EVALUATION REPORT
FOR REMEDIAL INVESTIGATION/FEASIBILITY STUDY SAMPLING AND
ANALYSIS ACTIVITIES, NEAL'S LANDFILL SITE, MONROE COUNTY, INDIANA,
VOLUME I,**

by

Gareth J. Davies, M.Sc., P.G., Principal Scientist, Cambrian Ground Water Co., 109 Dixie Lane,
Oak Ridge, TN 37830

Please Note:

All readers of this document should become familiar with the literature cited, the references cited in that literature, and other relevant literature. Only then can the necessity and validity of the comments made in this document be appreciated. Refutation of comments made in this review should also be backed by their own references or otherwise cited literature.

Introduction

The Neal's Landfill disposal site and its vicinity have been evaluated by CBS Corporation (CBS Corp., U.S. EPA and its consultants with regards to so-called Source-Control Alternatives, as described in a report: Field Data Evaluation Report for Remedial Investigation/Feasibility Study Sampling and Analysis Activities, Neal's Landfill Site, Monroe County, Indiana, Volume I, (Tetra Tech EM Inc., 1998) (in addition to associated documents and appendices).

Currently a Source-Control Remedy that is preferred by the parties involves removal and consolidation of hot spots of PCB contamination and installation of a RCRA cap on the landfill. Another alternative was to completely remove the contents of the landfill, but was not preferred as the calculated costs were considered excessive when compared to the hot-spot alternative.

Discussion

PCB sources in the landfill have been characterized as "hot" (> 500 ppm, dry or > 50 ppm, wet) by taking discrete samples, see Figures 1, 2, and 3 of Tetra Tech EM Inc. report (1998). The location of samples is shown in relation to a grid that was surveyed in place.

The major factor associated with this alternative, is how representative are the samples that are assumed to characterize the hot spots. If some of the remaining landfill waste is actually more contaminated than it appears to be (based upon assumptions made from the limited sampling and interpretation of those results), the landfill and its contents might be as big a problem in the

1

future as if the hot spots had not been consolidated and removed and the landfill left in its original condition.

This and other patterns of sampling can be evaluated by using methods of evaluation of systematic patterns of search related to sampling theory and statistics (see Davis, 1973, p 287-314; also Cheeney, 1983, p. 131- 133). The average of how many samples were collected in this case in each square subarea or quadrat can be made by dividing the number of sampling locations by the number of quadrats. Using this relationship it appears that an average of less than one sample was collected in each square. It is understood that more than one sample was collected vertically in the borings, but each square is drawn to show the sampling of an area, so there is

questioned in the context of the words of Lord Kelvin (1883) who said (paraphrasing)“if you cannot express it (the problem) in numbers, your knowledge is of a meager and unsatisfactory kind....” - Tetra Tech EM Inc., do not show any statistical confidence that the waste has been defined properly. In fact when evaluated in the way it has been in this document the sampling method used appears to not stand up to statistical scrutiny and raises very serious questions about the crux of the matter - the characterization of the hot spots.

Ground-Water Issues

Based upon topography and surface hydrology in the vicinity of the Neal's Landfill ground water could be predicted, in the vicinity of the site, to flow or discharge in either a northwesterly or westerly/ southwesterly direction. Ground-water tracing done at Neal's Landfill is reported to flow in generally the same directions as predicted by topography and hydrology (M. McCann, CBS Corp., personal communication).

If the true hot spots have been inadequately sampled and significant quantities of PCBs are inadvertently left in place then the ground water resources northwest and southwest of the landfill area will forever be potentially in jeopardy, however much treatment is attempted. Even though a cap would be in place ground water under the landfill would be subject to variations in hydraulic head caused by flooding and draining of conduits (cave passages), and might still reintroduce contaminants to the ground-water and eventually the surface water system in the future, and at possibly grossly unpredictable concentrations. Unless a massive drilling program

3

and properly-designed and implemented sampling method used, it would also be practicably impossible to determine how much waste in the landfill area remained that might come into contact with fluctuating ground water beneath the landfill. Many carbonate aquifers are covered by a cap rock that is essentially impermeable compared to the carbonates, but still discharge water large amounts of water through conduits beneath that cap rock, the implications are the same here.

As previously stated efforts at maintaining treatment of water discharging from the site might be seriously compromised, where predicted PCB concentrations that had been assumed based on the Source-Control data might be grossly inaccurate because they were assumed to be some of the highest assumed concentrations left in the landfill, where in fact they might not be. PCBs at the site have been characterized in ground water by sampling wells, springs, seeps and surface streams. Unfortunately samples from wells cannot properly characterize a site like this because the well as a sampling device assumes the hydrology of the site is a porous medium and Darcian flow prevails. However, karst and fractured-rock aquifers not only need to have ground-water flow described by tracing, but the sampling for contaminants has to be matched to the variability of the flow or discharge (ASTM, 1996). This would mean that unless the samples were collected at the same times the maximum flow and possibly PCB concentration were being discharged the site would not be properly sampled. Failure to sample often enough and observe the true amplitude of a signal is called aliasing (Davis, 1973, p. 258) and is a common problem in sampling protocol (ASTM, 1996), particularly in karst and carbonate aquifers.

The discharge points that were identified from the results of the ground-water tracing experiments should be further evaluated so that the periods when there are coincident maximum PCB concentrations have to be determined. This has been done for the discharge from Lemon Lane Landfill and provides an excellent basis for similar evaluation at Neal's Landfill.

Other considerations that are not mentioned specifically in the Tetra Tech EM Inc., report are that there could be unannounced collapse within the future footprint caused by undermining of soil, rock, or waste by underground streams, that would in turn cause rapid and drastic changes in the concentrations of landfill constituents being discharged. Ground-water monitoring plans

still only slightly less than one sample per subarea. Since an average of slightly less than one sample has been collected per quadrat and the probability of observing an event in one observation is practically zero, (the opposite notion of the law of large numbers, Havelock and Crain, 1988, p. 122-123) the argument that waste at the site has been properly evaluated is totally untenable.

Despite this serious problem in section 6.1 of the Tetra Tech EM Inc., report it is stated that "data suggest that the horizontal and vertical extent of contamination has been defined properly in the majority of the borings drilled," -- with absolutely no numbers or statistics whatsoever to support this. Arguably this is only correct for "in the borings" *sensu stricto*. The size of the diameter of the borings in relation to the size of the grid squares should be considered in that there is only an average of one boring per quadrat. The question is, what might have been missed? The truth is that to have a 90% probability of finding a circular 1-meter object buried in the subsurface by drilling, one would need to drill more than 2,471 3-centimeter drill holes per hectare, or 1,000 3-centimeter holes per acre (Benson and La Fountain, 1984). This translates to approximately 230 3-centimeter holes per quadrat to have the same probability.

Figure 1 is a plot of the inverse normal distribution function of all samples collected for PCB analysis for hot-spot characterization at Neal's Landfill. Random samples collected in natural system are typically log-normally distributed. The plot shows that the data generally fit a linear log-normal distribution function for lower-concentration samples, as would be expected, but the data do not fit as well at high concentrations. This lack of fit translates to more uncertainty in the representativeness of those high-concentration samples. These data form the basis of the hot spot characterization, and should be as representative as possible. The implication of the higher-concentration samples not being representative of the actual concentrations of the waste introduces the possibility of unintentional but real sampling bias, a common problem in the statistics of sampling.

Unfortunately it is impossible to evaluate whether there is potentially no statistical difference in the number of points per quadrat by Chi Squared Statistics because an average of less than 5 samples were collected from each quadrat, therefore the data collection can only be considered inadequate. However, it can be inferred that the landfill area contained enough PCB waste that

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was "hot" (>500 or > 50 ppm) that even using this unrepresentative and statistically untenable method there was some success.

When only a limited number of samples are collected for evaluation of any site caution should be advised. Huff (1991, p. 20) cites an example of the psychiatrist who proclaims "all people are neurotic." The bias in his interpretation can only be recognized when it is realized that "normal" people would never visit him.

The awareness required during evaluation of any scientific data such as these landfill data is stated eloquently again by (Huff, 1991, p. 20 -21):

"It is worth keeping in mind also that the dependability of a sample can be destroyed just as easily by invisible sources of bias as by these visible ones. That is, even if you can't find a source of demonstrable bias, allow yourself some degree of skepticism as long as there is a possibility of bias somewhere. There always is." [the bias referred to is statistical sampling bias and does not imply chicanery]

The lack of good fit of the high-concentration data in the inverse normal distribution plot should not be ignored, as it is the only statistical evaluation of those data. The statement made by Tetra Tech quoted above on the extent of contamination being "defined properly" must also be

would be seriously compromised in that discharge might begin at new locations not being treated, this is not improbable as it is common knowledge that such collapse events happen often in karst regions. The combined effect of these repercussions might mean seriously compromised human health in the vicinity of the site and is clearly not worth the risk.

A reason for not adopting Alternative 5 - complete removal of the waste was cost. However, if Alternative 4 is adopted in the final decision but the clear inadequacies shown to be present here not properly addressed then all the money spent on it would be for nought. Then the "more expensive" alternative would become cheap at the price, because it would have not been as prone to failure and compromise and at least the waste would have been removed from the site, thus

4

ensuring the one thing that cannot (or should never) be compromised, future protection of human health, which should be ultimate goal of such an endeavor regardless of cost.

References

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Lord Kelvin (1883) quotation

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McCann, M. (Westinghouse/CBS Corp.) - personal communication.

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MVA CONSULTING, INC.
ENVIRONMENTAL ENGINEERING

Mr. Mike Baker
C.O.P.A.
P.O. Box 665
Bloomington, Indiana 47402-0665

January 20, 1999

Re: Neal's Landfill Proposed Remedy

Dear Mike,

This letter contains my general comments on the Neal's Landfill remedy proposal distributed by EPA for public comment. My review covers the TetraTech site characterization work (Field Data Evaluation Report for the Sampling and Analysis Activities Neal's Landfill Site, Monroe County, Indiana, November 30, 1998) and the current EPA remedy proposal document by EPA (undated). My review did not cover hydrogeology and risk assessment issues; in a separate letter I have provided a list of data and reports that should be provided to Gareth Davies and SENES for review.

My general comments are listed below. Since you are already familiar with the alternatives considered and proposed, I have not included a summary of them in this letter.

General Comments On The Proposed Remedy

1. Expand Alternatives

- a) The remedial alternatives evaluated by EPA should include treatment and disposal options in addition to capping and landfilling. The Bloomington community opposed PCB treatment in a MSW incinerator, but they clearly support the consideration of other treatment methods that would reduce the toxicity, volume or mobility of the contaminated waste.
- b) Intermediate excavation criteria should be examined to bridge the gap between Alternatives 3 and 5. Alternative 4 is one intermediate scenario, but there need to be at least two more between Alternative 4 and Alternative 5. A stronger analysis would delineate removal contours and estimate cost for excavation and consolidation limits ranging from 25 to 500 ppm. No additional data, and relatively little work, would be involved in generating the intermediate cost estimates and excavation contours.

The cost difference of \$64 million between Alternatives 4 and 5 is so drastic compared with the \$3 million differences between Alternatives 3 and 4 that the reader automatically disregards Alternative 5 as excessive. This is a misleading presentation by EPA because the entire spectrum of cleanup scenarios that bridge the gap between Alternatives 3, 4 and 5 is perfectly reasonable.

Table 1 shows three possible compromises between Alternatives 4 and 5. Decreasing the hot spot definition from 500 ppm to 250 ppm targets only two additional borings for action (CBS-SB6 in the southeast section of the landfill that is already targeted for extensive removal and consolidation, and NL-SB95 in the southwest section of the landfill where excavation is not proposed). Further decreasing the hot spot definition to 100 ppm results in the addition of only three more borings (NL-PZ14 and NL-PZ61 in areas already targeted for excavation and consolidation, and NL-SB 74 in the northeast section of the landfill).

M. Baker, Neal's Landfill Proposed Remedy
January 20, 1999

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Thus, reducing the hot spot definition from 500 to 100 ppm requires only two additional areas of surficial excavation (3.5 feet into the waste in the southwest section and 6.5 feet into the waste in the northeast section).

Table 1: Intermediate Alternatives					
Scenario	Excavation & Disposal	Consolidation on-site	Cap	No. of Borings Affected	Cost of Remedy
Existing Alternative 3	500 ppm	None	RCRA	18	\$13 million
Existing Alternative 4	500 ppm	50 ppm wet	RCRA	25	\$16 million
Alternative 4a	250 ppm	50 ppm wet	RCRA	27	?
Alternative 4b	100 ppm	50 ppm wet	RCRA	30	?
Alternative 4c	50 ppm	None	10" soil	36	?
Existing Alternative 5	25 ppm	None	10" soil	47	\$80 million

2. Consolidation

In my view, consolidating PCB-contaminated material contaminated with up to 500 ppm PCBs on top of a localized ridge in the center of Neal's Landfill is completely unacceptable. However, we should seek Gareth Davies input in this area. While it is better to have the waste above the water table than below it, there is no long-term monitoring data to show that the waste will not be saturated during periods of high flow. There will be no barrier to stop PCBs from leaking into the soil and rock beneath the waste, and it is impossible to prevent a sinkhole from forming under the proposed consolidation area. Once PCBs enter the complicated karst groundwater system, it will be extremely difficult to capture them.

3. Post-Excavation Sampling And Long-Term Monitoring

The proposed alternatives should not be evaluated independent from the post-excavation sampling plan and the long-term monitoring plan. The extent of contamination has not been delineated in several areas, so a rigorous post-excavation sampling plan and a commitment to extend the excavation area to meet removal objectives is needed. This sampling and extended removal plan should be incorporated in the remedy proposal.

Similarly, since EPA has proposed to leave PCBs with concentrations up to 500 ppm in an unlined dumpsite situated on karst, they must present convincing evidence that when groundwater contamination occurs, it will be promptly detected, captured and treated. Money to build and operate water treatment plants in the vicinity of Neal's Landfill should be placed in escrow.

If you have any questions about the comments or proposals discussed in this letter, please do not hesitate to call me.

Sincerely,



Melissa Valentin, P.E.
MVA Consulting, Inc.

JIM CARTMELL

postmarked 2/3/99

OK

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2/3/99

Comments on the proposed plans for Neal's and Bennetts Dumps

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Geology, hydrology, site conditions

PCBs are a liquid. As a liquid they can make their way around on their own. They don't have to get wet to go someplace.

Other liquids like TCE and other solvents are known to be disposed of and/or detected at the dump. TCE and other solvents affect the mobility and transport of PCBs

PCBs are in containers that are corroding. Many of these containers have likely have not yet released their contents. (In 1987 before LL was capped several of the containers on the surface, including containers with holes in them on their upper surfaces had not yet released their contents but were corroding.) Other compounds like solvents known to be disposed of and/or detected at NN may also be in metal containers that also have not yet released their contents. Charlie Anderson, former manager of NN has stated that "barrels of who know what" are there.

It has been stated that the contents of LL, like the central portion of the site where wastes are intended to be placed at NN, do not get wet. It has been reported that No parts of LL have backflooded.

Lemon Lane was capped with an "impermeable" cap for close to 10 years before PCBs started to come out at the ICC springs. (In what the EPA thought was a significant amount) and LL never had the seeps and springs and flows of water which have been observed throughout NN, including in the central portion of NN where wastes are intended to be left and placed.

Karst changes dramatically over time, proposal is unacceptable as a result.

In EPA's 2/5/98 submittal to the court EPA stated, "to base a remedy decision on interpretations and unknowns such as subsidence is risky.

Subsidence is already known to have occurred in the central portion of NN where wastes are intended to be left and placed, ("piggybacked").

The 11/30/98 Tetra Tech report states, "sinkholes exist in the site area and are believed to exist beneath the landfill surface. Previous reports indicate that they and/or other karst features are under the central portion where wastes are intended to be left and placed, "piggybacked".

Waste at the site has been dumped directly on top of limestone bedrock that had been scraped of cover. This occurred in the central portion of the site where wastes are intended to be placed, ("piggybacked") in the proposed plan. (5/26/72 ISBH letter, others and present conditions.) "...observations reveal that the soil cover at the site is intermittent and that the bedrock is exposed in several places at Neal's Landfill PCB wastes, such as capacitors, laying directly on exposed bedrock..." (Affidavit of Robert Griffen, EPA witness who was who intended to offer testimony at trial.)

Monitoring well cores had numerous voids.

Monitoring wells on site, including MW 5-A in the central portion of the site, at a high point within the site, where wastes are intended to be left and placed, and in every direction off site around NN, have had PCBs detected in significant quantities. Nothing in the proposal address this.

You have to do the hydrology/geology before a remedy is selected not after as planned to occur.

Seeps have been observed in the central portion of the site where wastes are intended to be placed, "piggybacked". (John Foster) That is ground water has emerged on the surface in the central portion of the site. That is ground water flows through the waste in the central portion of the site on top of which wastes are intended to be placed.

As the 11/30/98 Tetra Tech report states seeps occur throughout the landfill. This "indicates that previous or current contact between source material and water" at the site has occurred.

As the 11/30/98 Tetra Tech report reports, during the Tetra Tech sampling, water was detected at 4.5 feet (#21) (and 5 feet at other locations #24, #29, #49, #51, #68) in the central portion of the site where wastes are intended to be placed and outside of areas intended to be excavated. These are the highest points that water was reported detected in the Tetra Tech sampling, including the south east portion that is supposed to backflood. Several samples in the central portion of the site where wastes are intended to be left and placed, are above 50% moisture at depth, (#18, 67, 45, 40, 22, outside of areas intended to be excavated), higher moisture contents than were found in the south east portion that is supposed to be wet. >60% moisture (#67, #18) is pretty wet. Nearly all of the central portion has >moisture content than the south east portion that is supposed to get/be wet. With water and moisture contents as reported and other conditions such as seeps, it appears that landfill contents in the central portion of the site apparently haven't been/are not dry.

As the 11/30/98 tetra Tech report states, none of the piezometer were installed in the original locations proposed in the approved (EPA) FSP, because they were all dry. Since piezometer that were installed show water present, the choices of piezometer locations in the approved (EPA) FSP show either intentional attempts to design sampling that would not show anything or how little EPA knows about the hydrology of the site, and that EPA can not justify the present proposal.

4 piezometer in the central portion of the site cannot determine what or where leachate leaves the landfill or if it is present.

A claim that NN may have no leachate from the central portion of the site would be/is ludicrous. (Water has been deiced 4.5 feet down in the central portion of the site in an area not proposed to be excavated.

The 1/2 acre Neals Dump the smallest site with the least complex geology had up to 8 piezometer at one time in the past. Why would 8 piezometer be at Neals dump and only 4 be employed in the 10 acres at NN where wastes will be left and placed to provide the information used for decisions there, when NN has a much more complex geology and subsurface and is a much larger area than Neals Dump?

Cleanup Standards stated in 11/30/98 tetra Tech report state 500 ppm for dry areas and 50 for wet ones, and that water levels gathered from piezometer during SA were used to identify "wet" areas of NN.

4 piezometer over the 10 acres at NN in the central portion of the site where wastes are intended to be placed cannot even begin to reflect what is going on in that ten acres.

In Tetra Tech's 11/30/98 report about the recent sampling activities at Neals Landfill, (what's erroneously titled an RI/FS on a separate page) they describe difficulty in differentiating between the fill and the native material except when the native material consisted of limestone bedrock. Some of the PCB waste dumped, fullers earth and sawdust, may at this point resemble what might be described as native material or fill.

As stated in Tetra Tech's 11/30/98 report, there was an order of magnitude difference between duplicate samples, split samples, and samples submitted for reanalysis.

100 could be 1000 or 10.

This means the reported difference between 50 and 500 means nothing. That where you have more than 5 you could have more than 50, or where you have more than 50 you could have more than 500. And the areas involved would need different treatment than they are going to receive.

You need to have a cleanup standard consistent with your limits or error or it means nothing.

Tetra Tech's 11/30/98 report states a number of things are unknown. (Some or which are reported in other reports). Those concerns preclude adopting the present proposal. (Whether municipal and industrial wastes at the Neal's Landfill site are in contact with groundwater; Whether solution cavities in the epikarst beneath the site are in contact with groundwater; how groundwater levels beneath the landfill fluctuate over time; and whether leachate exists at the base of the landfill and if so at what elevations.)

Placing waste on top of the site, "piggybacking", is inappropriate and not permitted as the demonstration "that groundwater will not be contaminated beyond 100 feet from the site, over a 100 year period", before placing waste on top of the site, ("piggybacking"), cannot be made because PCB releases are occurring and waste at the site contains both PCBs and RCA waste. (EPA's 2/12/98 filing to the court.)

As described in EPA's and the U.S's 2/5/98 and 2/12/98 fillings to the court and as above, The hydrology, geology and conditions and requirements at this site

preclude the present proposal.

The storm event information and concerns voiced in EPA's and the U.S's 2/5/98 and 2/12/98 filings to the court, are still true and still apply to the current proposal along with the other information concerns and requirements voiced that reveal the proposed plan should be rejected and would not be protective of human health and the environment for the same reasons voiced in EPA's and the U.S's 2/5/98 and 2/12/98 statements.

"EPA rejects the Neal's Landfill "piggybacking" concept on substantial environmental ground, because it would not provide the necessary assurance that placement of PCB and RCRA waste...(on top of the central portion of NN) would be protective of human health and the environment."

EPA's and U.S. statements in their 2/5/98 and 2/12/98 submitalls to the Court concerning the geology, hydrology, site conditions and what is required by guidance and law, and necessary in order to consider or permit leaving waste in place in the central portion of the site and piling other waste on top of it ("piggybacking") reveal the proposed action should not be permitted.

As the State Board of Health specifically informed Neal concerning disposal of Westinghouse waste at NN in 10/1968, "The method they have chosen calls for controlled burial. In fact, the method of disposal they (Westinghouse) outlined during a phone conversation with Mr. Shoaf (Westinghouse employee) does not appear to be at all feasible in the Bloomington area because of the local geology. (Emphasis added.)

Putting a sheet of plastic over it does not make it any more feasible now.

Cleanup Standards

Cleanup Standards stated in 11/30/98 tetra Tech report states 500 ppm for dry areas and 50 for wet ones, and that water levels gathered from piezometers during SA were used to identify "wet" areas of NN.

As stated in Tetra Tech's 11/30/98 report, there was an order of magnitude difference between duplicat samples, split samples, and samples submitted for reanalysis.

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This means the reported difference between 50 and 500 means nothing. That were you have more than 5 you could have more than 50, or where you have more than 50 you could have more than 500. And the areas involved would need different treatment than they are going to recive.

A cleanup standard must be consistent with your limits or error or it means nothing.

JIM CARTMELL

postmarked 2/3/99 (OK)

Comments on proposed plan for what's referred to as Neal's Landfill

Comments on proposed plan for what's referred to as Neal's Landfill, referred to as NN within. (Neal's Nightmare)

I wasn't going to make comments since they have no effect, and there wasn't time to examine the material necessary, some of which still isn't available, and make comment, and problems with weather and holidays, in addition to injuries which limit siting and typing. But since comments I had prepared for the public meeting had no opportunity to be made I will send something, whatever I get done.

It is apparent to many of the citizens here that decision about what to do here was made some time ago.

The way EPA has done things here is to decide what is going to be done and then try to come up with something (to be kind) to justify it.

I asked EPA where comments, if anywhere, have ever changed a remedy. EPA did not respond. I assume that comments have not previously changed a remedy.

Along those lines, comments will apparently not affect this process because it has already been decided, as the original decision was, and in that sense public process and comment is apparently done to fulfill legal requirements so that parties can say they had a comment period and accepted comments, with little or no chance that comments could affect that decision.

EPA trumpeted to the high heaven as a great thing the decision that the present proposal is supposed to amend. That decision was approved by EPA in the face of overwhelming public opposition and "comment". It is interesting to note that the EPA has now admitted that decision was a bad decision; and that not one comment made at the time had any effect on that decision now admitted to be bad.

It is also interesting to note that when the original decision was made EPA and the other government parties resoundly and repeatedly rejected as inadequate what is now being proposed.

What was completely unacceptable then, is what is being proposed now.

The original remedy, a trash fueled toxic waste burning incinerator was trumpeted as "proven technology". It is, of course, impossible for something that never existed anywhere, and never been built or tested, much less reliably operated, anywhere, to be "proven technology". EPA later admitted that it was not proven technology, but that didn't stop EPA from lying to everyone and getting many to believe, including the Judge, that it was "proven technology". Roughly the same kind of process is occurring now.

Failure to Determine the Nature and Extent of Contamination

The Parties have not yet determined the nature and extent of contamination at these sites. (Or properly assessed what could be done about it.)

An activity Necessary in order to assess the risks posed by a site,

for cleanup levels
site safety
remedy selection
or any plan or activity can be made.

Until that is done a decision concerning the sites is premature.

Many comments related to the continued failure to determine the nature and extent of contamination at this site and properly evaluate what can be done about it.

There are a number of factors necessary to consider examine and investigate before a remedy can be selected. Several of these factors are recounted in the EPAs 2/5/98 and 2/12/98 submittal to the court but were not accomplished in selecting the remedy chosen.

Among others, geology, hydrology, site conditions, contaminants of concern law, regulation, common sense, honesty and integrity that have been ignored or overlooked or improperly investigated by the parties.

These issues have not been properly evaluated or incorporated into the parties plans, activities or decisions here.

RI/FS

What's referred to as the "Final Data Evaluation Report for RI/FS..." by tetra tech, or what's in the administrative record does not characterize the nature and extent of contamination at these sites, and in no way contains or meets the requirements of what an RI/FS is supposed to be. The information presented in no way characterizes the site to justify the present decision.

The Stated objective of what is erroneously referred to as an RI/FS is to assess whether PCB "hot spots" exist within NN.

The objective of an RI/FS is to determine the nature and extent of contamination at a site, in addition to obtaining other information necessary to select a remedy, not to determine the "hotspots" of only one of many toxic and hazardous compounds present at the site as has occurred.

In addition to inadequate sampling for PCB "hotspots", which failed to sample most of the area of NN for "hotspots", the RI/FS and proposed action does not include the results of previous testing in the identification of "hot spots".

The text of what is erroneously referred to as an RI/FS does not identify it as an RI/FS but as sampling and analysis activities conducted pursuant to a statement of work (SOW) written by EPA. (This SOW has not been supplied to the public, yet another instance of EPA failing to supply information, in contradiction to their claim that they have supplied all information.)

I was quite surprised to see what is erroneously referred to as an RI/FS in the AR. (Apparently this was a stealth RI/FS. Done without input or comment into what an RI/FS should include.) When Tom Alcamo the current project Manager started the job last year one of the first things we asked him was if an RI/FS was

going to be done. After first replying, yes of course, he then stated that one was not going to be done.

The citizens here have asked for an RI/FS for more than 15 years and EPA has stated they didn't do one, didn't have too, (most recently at the public meeting on NN), but that they did the functional equivalent of one. The EPA ombudsmans office investigated the citizens complaint about the lack of an RI/FS and determined that EPA didn't do one, EPA didn't do the functional equivalent of one and found that one wasn't ~~going to be~~ done, because Westinghouse/CBS didn't want one done.

The reason for my surprise was because between the time EPA project manager Tom Alcamo said one was not going to be done and the time one appeared buried in the several feet of Administrative record a year later, nothing was said and no documents have been provided that indicate one was being done. I'd like to get those documents.

Incidentally a document titled as an RI/FS for NN was done in 1983, but it did not evaluate or select the remedy that was chosen so the EPA has apparently tried to pretend that it doesn't exist, claiming as recently as Jan 1999 that it didn't exist and they never did one. EPA documents clearly show that an RI/FS was done or planned for every Consent Decree site, but that RI/FSs for Lemon Lane and Bennets Quarry (and an EIS for at least one CD site) were canceled without being done and a remedy selected without one.

PCB Hot spots

The parties have not yet identified the nature and extent of PCB contamination, or PCB "hot spots" in this dump much less dealt with other contaminants of concern, or hot spots of those contaminants.

Sampling that has occurred is inadequate to determine the locations of PCB "hotspots" at NN. The recent sampling that occurred (in what's erroneously referred to as an RI/FS), failed to sample most of the area of NN for "hotspots".

In addition what's erroneously referred to as an RI/FS and the proposed action failed to include the results of previous testing in the identification of "hot spots".

Most of the area of the central part of the landfill which is some 10 acres in area, will apparently receive no further testing.

The north and southeast portions of the landfill are proposed to be piled on top of this 10 acres.

Most of the samples at NN were done in 100 foot grids.

(Some sampling was done that was derived from EM, Radar, Aerial Photo and Field Data that supposedly identified trenches where supposedly PCB material was buried. This sampling did not result in identifying trenches of buried PCB material. Apparently the EM, Radar, Aerial Photo and Field Data as utilized by EPA did not successfully locate the PCB material disposed of at NN.)

Some of the areas identified in the proposal as "hot spots" are ~ 50 feet across and 2 feet thick.

In the central portion of the landfill there are more than 100 areas ~50 feet across that were not sampled and will not be sampled or excavated. That is sampling that was done at NN did not test and may not have located more than 100 contaminated areas, "hotspots" as big or bigger than hotspots that have been identified.

More than 100 contaminated areas is considering only the horizontal dimension. Horizontally and vertically hundreds of areas ~50 feet across and 2-3 feet thick were not sampled. In other words the sampling that was done at NN did not test and may not have located hundreds of contaminated areas, "hotspots" in the central area that were not sampled and will not be sampled or excavated as big or bigger than hotspots that have been identified and will be excavated.

In the north part of the landfill there are 40 some areas ~50 feet across that were not sampled. That is, sampling that was done at NN, did not test and may not have located some 40 contaminated areas, "hotspots" as big or bigger than hotspots that have been identified.

There is no reason to believe that "hot spots", or principal threats at NN have been identified and will be excavated.

What was identified as requiring excavation and excavated at Neals Dump was about 75-80 feet wide and about 150-160 feet long.

Some 15 whole Neals Dumps fit between sampling points and areas that are proposed to be sampled or excavated at NN. (With space left over on the side.) i.e. sampling that was done at Neals Nightmare or LL may not have located contaminated areas, hot spots, as big or bigger than areas as large as 15 Neals Dumps.

You could drive 10 semitractor trailers abreast between sample points at Neals Nightmare and more than that at Lemon Lane. You could have buried 10 semi tractor trailers abreast full of capacitors between sample points at Neals Nightmare and more than that at LL in areas that are not planned to not receive confirmatory sampling that would not have been discovered by the sampling that took place.

EPA has said they are doing a hot spot cleanup that addresses principle threats. They have refused to identify what a Hot spot is or what the factors are that go in to determining a Hot spot. There is no reason to believe they have found the hot spots or principal threats in NN.

They have stated a hot spot/principle threat is 400-500 ppm of PCB.

They have stated that 10 lbs of PCBs in a cubic yard of dirt would be a hot spot.

The testing they have done would not have found the locations where PCBs are at concentrations > 400-500 ppm – or where 10 lbs of PCBs is in a cubic yard of dirt.

One capacitor has more than 10 lbs of PCBs in it. There are ~40 lbs of PCB oil

in the most common type of capacitor disposed of at the dumps.

EPA has made a distinction between an "isolated hit" of PCBs at 500 ppm or greater and a hot spot.

How would sample points a 100 or more feet apart as was done at NN and LL be anything other than isolated hits.

Several of the 50 foot or greater "hot spot" areas are drawn around sample points as a result of detection at single points. In testing at Lemon Lane and Neals dump PCB results have varied by thousands of parts per million within a short distance.

There may be large piles of presently intact capacitors or barrels of PCBs or as Charlie Anderson former manager of NN has stated barrels of who knows what, that have not yet corroded or released their contents.

At the Westinghouse Plant and Fell Iron and Metal sites, both larger sites than Neals Dump, the sampling requirements.. established in the PCB Spill Policy..." were ordered by EPA to be used for the cleanup of those sites. The ordered policy provided that sampling "must be sufficient to ensure that areas of contamination of a radius of 2 feet or more within the sampling area will be detected..."

The parties have not yet identified PCB hot spots in these dumps much less dealt with other contaminants of concern.

In the deposition of Neal he states that ~60-70% of the waste hauled to Neals Landfill was industrial waste.

What is referred to as Neals Landfill was an Industrial waste dump, not a municipal waste dump.

(Records and testimony of people who were there, including Charlie Anderson, who managed NN, the state Board of Health, and others indicate that NN was burned almost every night. What was burned was whatever was disposed of that day, including PCB material, in order to reduce the volume of it.)

EPA project manager Tom Alcamo in a 2/5/98 letter and filing to the Court states, "Records, however indicate that over 40,000 capacitors were disposed of in Neals's landfill and historical testimony indicates that disposal activities took place across the entire site." (The EPA enforcement confidential report on Neals Landfill and other sources also state this.)

In addition to capacitors W/CBS and other documents indicate that a huge quantity of PCBs was disposed of in saturated fullers earth and sawdust, (~1400 lbs/day), and as liquid PCBs, (20-30 55 gallon barrels per month).

The disposal practices at Neals Dump resulted in a much denser concentration of capacitors and material at Neals Dump than the reported disposal practices at Neals Landfill would have resulted in, which means that apparently there are a lot of capacitors that will be left at Neals in addition to the liquids fullers earth and saw dust and other contaminated material that was dumped there.

(Liquids were reportedly disposed of in much less quantity at Neals Dump.)

7,000 cubic yards of material are proposed to be excavated from the 18 acres of what is referred to as "Neals Landfill." (With another 40,000 or whatever to be tested by W/CBS and an estimated ~13,000 yards of that to be disposed of offsite.)

7,000 cubic yards of material are what was excavated from the 1/2 acre of what is referred to as "Neals Dump".

Tom Alcamo has stated that ~2500 capacitors were in the 7,000 cubic yards of material excavated from Neals Dump, (about .4 capacitors per cubic yard). (W/CBS documents discussing what Neal was paid per capacitor to haul it state that Neals was paid to haul away some ~8,000 large capacitors during the time period he is reported to have dumped at Neals Dump.)

The disposal practices at Neals Dump resulted in a much denser concentration of capacitors and material at Neals Dump than the reported disposal practices at Neals Landfill would have resulted in. This means that apparently there are a lot of capacitors that will be left at NN in addition to the liquid PCBs, PCB contaminated fullers earth, saw dust and other contaminated material that was dumped there.

I think you'd be lucky to get 500-1,000 capacitors in 7,000 yards of material at NN, this would mean that maybe 1,500 -3,000 capacitors would be removed from NN out of the more than 40,000 capacitors stated to have been disposed of at the site, not counting the huge quantities of liquid PCBs, PCB contaminated fullers earth, saw dust and other contaminated material that was dumped there.

This is inadequate. Many hot spots and principal threats are apparently planned to be left in NN, as (in the words of Joseph Karrigannis the architect of the consent decree) "repositories of PCB contamination for thousands of years" that, will continue to leak PCBs for thousands of years."

There are/were people, like Charlie Anderson who managed the dump for Neal, and others who may have been or be able to help locate directly or through their past statements what was dumped where. Citizens talked to Charlie Anderson and arranged for his appearance at public meeting, but as far as I know this appears to have been beyond the keen of EPA.)

Notes on Figure 3, "Neals Landfill Site Extent of material to be excavated" attached to the list of ARAR's in the administrative record but apparently intended to be attached to the proposal in the AR, indicate ~100,000 cubic yards of material is proposed to be excavated from the north, central and southeast parts of NN, ~1,000 from the north, ~20,000 from the central area, and ~80,000 from the south east area. Of this total some 40,000 cubic yards is intended to be tested in some unidentified manner. The other ~60,000 cubic yards of material is proposed to be thrown on the

central portion of NN without testing, along with some part, possibly all of the 40,000 cubic yards that is to receive testing, 13,000 of which is estimated to be removed, as greater than 500 ppm along with the 7,000 yards of what has been identified as >500 ppm.

The gray pamphlet, of U.S. EPA proposal with a comment sheet separate from the AR, indicates that some 41,000 yards of material is going to be excavated and tested from within the same contours that are on Figure 3 as above. Where is the 60,000 cubic yards of material mentioned on figure 3 coming from?

Under the CD 320,000 yards of material were required to be excavated from NN.

About one 45th of that is going to be excavated and disposed of site under the present proposal. It is estimated that about one 16th (20,000 yards) of the original total required to excavated under the CD will be excavated and disposed of under the present proposal.

This is inadequate and not in compliance with the CD by which the parties are bound.

Contaminates of concern

There are a number of contaminants of concern that have been ignored or overlooked or improperly investigated by the parties.

The presence of these ignored or overlooked compounds at these sites have not been properly evaluated or incorporated into the parties plans, activities or decisions here.

The parties have not yet identified the nature and extent of PCB contamination, or PCB hot spots in this dump much less dealt with other contaminants of concern, or hot spots of these contaminants

Contaminants of concern other than PCBs present in these sites in addition to being co-located with PCBs, are not required to be and are known not to be collocated with PCBs.

Contaminants of concern at NN that have not been properly evaluated were identified in the testimony and evidence submitted to the USB in the hearings and activities surrounding the Westinghouse site safety plan. I incorporate the submittals, testimony, evidence and information concerning these compounds submitted by the City and citizens to the USB by reference in these comments (it is a lot of material) and the comments of Libby (S.E.) Frey as part of my comments.

Contaminants of concern at NN that have not been properly evaluated that were identified in the States Feasibility Study done in 1995 by PRC and the ISDH include PCBs, TCE, Heptachlor, Lead, Cobalt, Chloroethane, 111-trichlorethane, vinyl chloride, and Dioxins and Furans.

As an example of how the presence of contaminants of concern that have

been overlooked and improperly investigated and not been properly evaluated or incorporated into the parties plans, activities or decisions here:

The U.S in their 2/12/98 filing with the Court and sampling data, indicate that TCE, a carcinogenic organic solvent, is present at NN. Other sampling information (including recent sampling) and reports concerning what was dumped at NN indicate the presence of other solvents at NN. The U.S in their 2/12/98 filing with the Court states that "TSCA regulations requiring(e), among other things, to segregate "other wastes placed in the landfill that are not chemically compatible with PCBs and PCB items including organic solvents..." "

The present proposal does not comply with these TSCA and RCRA requirements.

Information about some of these contaminants is presented below:

Chlorinated benzene

The PCB fluids used in the capacitors around here were/are a syrupy oil, like vegetable oil. Capacitor fluids contain other compounds in addition to PCBs.

Chlorinated benzene are reported to have been a principle component of arochlor mixtures (EPA's 1982 Health Effects of PCB's pg. 175, Dan Cortes report, EPAs Project Summary, Assessment of PCDDs and PCDFs from PCB Transformer and Capacitor Fires, pg 1, etc.) Westinghouse documents state that chlorinated benzene was added to PCB fluids used to make electrical equipment at the Bloomington Plant.

They can be present in anaerobic conditions and affect the mobility and transport of PCBs and are significantly toxic compounds. I am not aware of one test that has been done at any of the Bloomington sites for tetrachlorinated benzene, a compound reported to be a principal component of arochlor mixtures used.

The presence of these compounds at these sites have not been properly evaluated or incorporated into the parties plans, activities or decisions here.

Dioxins, furans, dioxin like compounds, other compounds created as a result of fires involving PCB and other material at the dumps.

PCB material was burned at NN (and other sites). At locations where fires involving PCBs have occurred, the compounds created as a result of the fire have been the compounds of most concern, greatest risk, not PCBs.

The compounds formed from burning PCBs are frequently not co-located with PCBs and their presence affects the remedy chosen, cleanup standards and guidelines and site safety plans and activity.

Milton Clark, EPA senior Health and Science Advisor, in his 3/16/98 letter stated, "PCBs dominate human health cancer and non-cancer risks, **unless where fires have occurred** which can generate dibenzofurans and dioxin, the later when chlorobenzenes or related compounds are present. (Emphasis added.)

(Milton Clark is who set a PCB clean standard of NN in his 11/30/98 letter. It is not clear that Milton Clark is aware that PCBs and other material were burned at

NN.)

The 1/25/1994 report by U.S. Fish and Wildlife after talking about the superficial sampling at the sites states, "We believe that the data For these sites in no way represent what is necessary to adequately characterize the ...risks associated with these sites.

"Probably the most compelling weakness is the general lack of dioxin and furan data throughout these sites, especially where burning was known to occur." (emphasis added.)

There has been no subsequent testing for dioxins and furans or the other compounds created as a result of burning PCBs since then at NN or in any spring, creek, stream or fish receiving water from NN.

NN has surface water originating on site and when it was discovered had a surface water pond and springs within the site boundaries that flowed into surface water creek nearby. During high flow conditions piping place during interim measures squirted like a fire hose with the strong odor smell of TCE in the air. The presence of solvent known to have been dumped and/or found at NN can facilitate the transport of dioxins and other material created as a result of the burning that took place at the site.

(Site conditions at NN are very different than at Lemon Lane and what may be "claimed" about Lemon Lane cannot be claimed about NN.) (Not to mention the ridiculously inadequate failure to characterize Lemon Lane.)

The 1995 PRC Feasibility Study for the Bloomington Sites prepared for IDEM as required by state law states, "Dioxins and furans,... are highly toxic, have been detected at some of the sites. They are also therefore considered primary contaminants of concern."

That same study in evaluating disposal in an offsite landfill states,

"Soil from the CD sites may contain dioxin. Wastes that contain any levels of dioxins require incineration. The only Dioxin-licensed incineration facility in the United States is... in Coffeyville, Kansas."

This may explain why these sites have not been characterized for dioxins and other compounds created as a result of burning PCBs and other material at NN.

(Coffeyville is where W/CBS in violation of the Consent Decree the Parties all so regularly stated they were bound by, took burned PCB material that had been on the surface of Lemon Lane from the interim storage facility to Coffeyville.)

NN was burned on a regular basis. Neighbors complained about the burning and disposal activities at NN for years.

One lady wrote, "The conditions are terrible. They burn at least twice a day and last night they burned all night. The debris (from the burning) in our yard this morning was awful."

A 10/30/68 letter from the State Board of Health to Neal about dumping activities at NN states,

"We cannot certify that your method of handling waste material from the Westinghouse Corporation, Bloomington, is done in a manner that would be considered acceptable. Your current disposal practices include making a pile of the oil absorbing compounds containing a material called inerteen and then placing on top of this several truck loads of waste cardboard, broken wooden pallets, waste paper, and defective transformer coil. You then set fire to the pile and allow all combustible material to burn as completely as it will naturally do."

Charlie Anderson, who managed NN, stated that he set fire to NN every evening. What was burned was whatever was disposed of that day, including PCB material, in order to reduce the volume of it. PCB material, large piles of tires, TV cases, Charlie Anderson stated that there are "barrels of who knows what there" and that some of those "barrels would ignite and explode like roman candles" when the dump was burned.

EPA document EPA/540/s-93/506 states, a more significant health impact of PCBs may be caused by their incomplete combustion during thermal process, which occurred extensively at NN.

There is one test event that I can see in the AR for dioxins and furans. It is reported as onsite testing for dioxins. Three sample locations were tested. Three, two of these were offsite and it is not known whether the material tested would have received deposition from NN. One location was tested on site. One.

One sample location or even a few cannot be used to characterize NN. Westinghouse in their 1993 Data Compilation characterized LL as no problem for PCBs reporting 8 sample locations, half of which had nothing and the other which had an average of 22 ppm PCB.

Times Beach, the Town that was bought out by the EPA because of dioxin contamination, had more than 5000 dioxin tests done to a much smaller amount of material than is at NN.

In the most recent sampling for PCB at NN, that is the most sampling that has ever been done at NN, less than 300 PCB tests were apparently done and EPA talked about what a huge and magnificent feat that was.

What's been done here is a joke, and does not characterize the site for Dioxins and furans much less the other compounds created as a result of burning PCBs and the other material at the dump.

Smoke from a fire involving a few pieces of electrical equipment wafting out of a building, contaminated "groundwater,... lawns and roads up to a million of times the state's legal limit." (September /October 1994 Sierra magazine)

A fire, involving one piece of electrical equipment, in the State Office Building in Bingham New York rendered an entire multi story building "uninhabitable for over a year, even by cockroaches." (from the EPA's 1982 Health Effects of PCB's pg. 175) The soot was dispersed throughout all floors of the building, even inside closed desk drawers, with unacceptable levels of compounds created and deposited as a result of the fire. Some 2000 ppm of just PCDF's, along with other toxic compounds. (Rape)

That was a fire with one piece of electrical equipment.

NN (and other sites here) had many fires involving large numbers of pieces of electrical equipment and apparently large quantities of other waste contaminated with capacitor fluids and other material, paint thinners, TCE, plastics, etc. known to cause the formation of dioxins, furans and other extremely toxic dioxin like compounds when burned.

There is a strong likelihood that the dioxins and furans and other compounds created as a result of burning PCBs and the other material at the dump where carried offsite in the form of soot or by water or by the solvents once dumped at the sites is very strong.

The first couple of EPAs Onsite Coordinators and Barbara Magel, the EPA's lead consul at the time, in 1983 in a position document written in conjunction with on site coordinator Ron Lillich reported the importance and significance of fires involving PCB equipment and the compounds created as a result and their likely presence at these sites, and stated, "extensive burning of wastes occurred onsite. Accidental fires involving PCBs have resulted in the formation of highly toxic polychlorinated dibenzofurans and polychlorinated biphenylenes at other locations."

(The first recorded instance in Bloomington reporting on a relationship between PCBs and PCDFs was by Rick Peoples, then City Chemist for the utilities Department in a 1976 release.)

The Response of the United States to Public Comments on the Consent Decree and Request to Enter the Consent Decree stated Dioxins and dibenzo furans can be formed when PCBs are burned at low temperatures (that occurred in the burning at the sites) and that they may be present as contaminants in the waste being burned.

The City of Bloomington in 2/14/1987 proposed findings of fact attempted to get the nature and extent of contamination characterized at Lemon Lane so that the risks the site posed could be determined and clean up standards could be set. They stated the same concerns about the presence of dioxins and other compounds created as a result of burning PCB material and other compounds and concerns about the risks posed about other material at the dump. That insufficient testing existed to characterize the dump and the risks it posed. And that in order to determine the risks and set cleanup standards that testing that identified the concentrations present was required. That testing has never occurred at the Bennets site.

The EE/CA conducted at W-T stated, "Adequate characterization of dioxins

(PCDDs) and Furans (PCDFs) has not been conducted at Winston Thomas. (At W-T!) "It is not known to what degree combustion occurred, if at all at Winston Thomas. The lack of information on combustion is an important data gap in establishing the need to characterize PCDD for the development of RAOs.", or in this case at these sites cleanup levels and activity.

EPAs Project Summary, Assessment of PCDDs and PCDFs from PCB Transformer and Capacitor Fires, states,

"there is a genuine public concern over potential exposure to highly toxic substances (i.e., dioxins and furans) from such fire incidents. PCB transformer/capacitor fires are unique because of the toxic residues generated and the resultant long-lasting contamination. Findings of such toxic chemicals will .. complicate..clean-up procedures for fires incidents, The presence of highly toxic substances such as PCDFs and PCDDs in PCBs fire incidents has.. complicated cleanup and remedial measures. After the fire, access to the area must be limited until the extent of contamination can be determined. The presence of PCDF and PCDD isomers will affect surface and air cleanup guidelines according to the biological and toxicological activity of the specific isomers. The State of California proposed air exposure guidelines of 10 pg/m³ for 2,3,7,8-PCDDs/PCDFs and 1.0 mcg/m³ for PCBs."

10 pg/m³ is 100,000 times less than 1.0 mcg/m³.

Up to a tenth of a gram PCDFs may be created from every gram of PCBs "burned" in a fire. (Rappe, preprint extended abstract, Division of Environmental Chemistry American Chemical Society in St. Louis Missouri, April, 1984)

Heating PCB's is such a reliable way of creating furans that laboratory standards have been made that way. (Chemosphere, Vol.9 pp.351-361, 1980).

Burning PCBs makes PCDFs. Burning Tri-tetra- chlorinated Benzene a principal component of arochlor mixtures, and other compounds like paint thinner and plastics, creates PCDDs, Pyrens, PC biphenylenes and other dioxin-like compounds or compounds with dioxin like toxicity or other wise significantly toxic. Reports have indicated that soot from the fires has these contaminants of concern in it. (Rappe, EPAs Project Summary, Assessment of PCDDs and PCDFs from PCB Transformer and Capacitor Fires, others)

There is no question based on the results of previous fires involving PCB material that as a result of burning the materials at these dumps extremely toxic materials were formed in large quantities and that there is a huge risk associated with those materials. The question is what happened to them and what are you guys going to do about it.

The presence of these (and other) compounds at these sites have not been properly evaluated or incorporated into the parties plans, activities or decisions

here.

(It is not sufficient to simply pretend that there were not other compounds present or declare that they have already tested for them in any kind of meaningful way.)

Contaminates of Concern, Overlooked risks from PCBs

In addition to ignoring the risks posed by contaminants of concern other than PCBs in setting cleanup levels at these sites (compounds that may not, are not required to be, and are known not to be co-located with PCBs), it fails to consider the risks posed by PCBs.

As Michael Mullin, an EPA chemist, has stated in PCBS Human and environmental Hazards (1983),

"The toxicity of PCBs is a function of the structure of the individual Isomer. Therefore, it is not sufficient to quantify the total amount of PCBs present in an environmental sample, but the concentrations of the isomers which are potentially more toxic must also be determined."

Mr. Mullin sent EPA's lead consul Barbara Magel and the EPA here a letter in 1984 advising about dioxin like PCBs and their toxicity and a few test results from here which the EPA did not follow up testing for and has ignored as much as possible. (Included in his results was a fish sample with more than a ppm of congener 77, one of the PCBs with Dioxin like toxicity and toxic in much smaller amounts than other PCBs.)

U.S Fish and Wild Life has for years attempted to get the EPA to consider and evaluate the risks posed by the different PCB congeners and some 10 years after Mr. Mullin's letter and results were provided to the EPA, stated in a 1/25/94 letter given to the EPA,

"There are 209 different chemical isomers of PCBs, each a unique combination of the degree of chlorination and position of chlorine attachment. Each of these 209 PCB isomers has differing degrees of toxicity, persistence, and even modes of action." "Aroclors, ... are industrial grade mixtures of these 209 different PCB isomers."

"Unfortunately, accurate interpretation of the toxicological properties of environmental samples of PCBs at these sites is very difficult because specific isomers are not identified."

As it reports in Arnold Schecter's Dioxins and Health (1994) dioxinlike "PCBs contribute a large share to the total dioxinlike toxicity in human tissue", and the greatest contribution to the TCDD-EQ (dioxinlike toxicity) in biological samples... Is from the P-PCB ((dioxinlike) congeners".

As U.S Fish and Wild Life has found and reported the DioxinLike PCBs are causing a problem in the wildlife and the environment around here.

Unless you know the congener involved you can not determine the risks

involved or a cleanup level.

As the W-T EE/CA states in their discussion about the environmental fate and transport and toxicity of PCBs,

"Solubility and sorption characteristics which control PCB fate and transport vary widely among the individual congeners. This variability in fate and transport causes substantial variability in the toxicity of the PCB compound to which a potential receptor may be exposed. Calculations... have used average properties of Aroclors with quantitation of total PCBs or Arochlor equivalents rather than congener-specific data and congener-specific physio-chemical properties. A generalized approach like this fails to recognize that.. a mixture of PCBs at exposure points may be very different from commercial mixtures of Aroclors and those considered as the source of contamination.

Milton Clark, EPA senior Health and Science Advisor, in his 3/16/98 letter fails to acknowledge that the congener profile of an environmental sample can be completely different than what the congener profile of the arochlor mixtures used in testing animals, and that what we want to count is the risk the environmental contamination poses, not the risk of an arochlor mixture that has not been in the environment for 30-40 years which has a different congener profile and different toxicity. What we want to count is the risk, not the risk that doesn't exist.

A commercial mixtures of PCBs will have a different composition of congeners with a different toxicity than a sample that has been in the environment for 30-40 years. 10 or 25 ppm of congener 77 or 126 or other dioxin like PCB congener has a different toxicity than 10 or 25 ppm of an arochlor mixture or some less toxic PCB congener.

A part of what was called a focused risk evaluation in the W-T EE/CA states that adequate characterization of dioxins and furans has not been conducted. Adequate characterization of dioxin like PCBs has also not been conducted, and the reasoning given there should be applied to dioxin like PCBs known to be present at these sites. Because of their toxicity, the presence of these compounds needs to be assessed by testing for them in order to determine any cleanup level.

Aroclors are designations for beneficial industrial uses and has no place in testing or reporting test results or determining toxicity or cleanup standards or for samples that have been in the environment for 30-40 years and been subject to the partitioning that takes place in the environment.

I realize that to continue testing or reporting test results or determining toxicity or cleanup standards on the basis of aroclors mixtures continues their beneficial industrial uses and benefits industry and W/CBS at the expense of the public and the environment.

Congener 77 one of the most toxic PCB congeners with dioxin like toxicity is at dangerous levels in fish around here, and is considered dangerous at ppts total TEQ dioxin equivalency or ~10 million times less than the cleanup standard for PCBs set for these sites.

Given the dioxin like toxicity of some of the PCB congeners, a congener

specific analysis is required in order to determine the toxicity, fate and transport and possible exposures of PCB compounds and what any clean up level might be.

Why are you counting apples when what you want to know about is oranges.

At some point you people are going to have to deal with the congener specific toxicity of the compounds involved. Hopefully you will not let harm come to many more people or the environment before you do.

A soil cleanup standard for dioxin like PCBs has been made and should be adopted here. That standard is 1 ppb total TEQ dioxin equivalency, or 15,000 some times less than the standard that has been adopted here for PCBs.

Extent of contamination, other areas of contamination

Site boundaries do not include areas known to be contaminated.

Site boundaries were not established as a result of testing and determining the nature and extent of contamination at the sites, but by some other *process*.

There are areas of contamination outside the boundaries of site.

These areas have been known to be contaminated by the parties for 10-20 years and before or as fences went up around the sites or remedial work was done and well before the CD. Apparently some kind of negligence and malfeasance went into excluding these areas from the metes and bounds of the consent decree.

Under the present proposal there is some unidentified process that may address some of this. Thus far it has only been identified in terms of how the last *process* was done. (They know everything and do a great job.)

Figure 2 in the "Enforcement confidential summary of Remedial Alternative selection Neal's Landfill" done before the consent decree identifies what was labeled outlying disposal areas. Areas that were not included in the metes and bounds of the site.

A survey done in 1983 for capacitors and capacitor insulation depicted PCB material all over NN and outside the present site boundaries, and in places where it appears to be outside of the fence. The survey did not identify where capacitor ceramic insulator pieces were found but states they were scattered all over the area. Figure 2-2 in the Tetra Tech Final Evaluation report for Sampling and analysis activities NN (erroneously identified as an RI/FS on an added cover page), identifies the locations of capacitors and capacitor material without identifying the source of that information, but which is apparently from the 1983 survey. Figure 2-2 depicts material in different locations than are depicted in the original capacitor survey maps that are apparently the source of the information. For instance the 1983 survey maps depicts material north of well 8-A outside the boundaries of the site, but in 1998 Figure 2-2 this material has been moved south of 8-A inside the boundaries of the site. It is important to remember that pcbs are an oil that drains off of broken electrical equipment, and that if the broken electrical equipment is moved the PCB material that drained off is still where it drained off at the original location where broken equipment was.

A poorly copied and depicted, "Map of buried materials derived from EM,

Radar, Aerial Photo and Field Data", from the early 1980's with Tehnos name on it, depicts what they call scattered trash well outside the metes and bounds and fence of the site.

A contractor, John Foster who did some of the remedial work at NN, like water diversion ditches, encountered PCB material outside of the metes and bounds in many places, which was reburied or left outside of the metes and bounds. He tried for some 15 years to get EPA to acknowledge and deal with it but was ignored until recently. Undoubtedly he is not aware of all the locations where PCB material is outside the metes and bounds or outside the fence of the site. (I have no confidence in EPA that they will properly investigate where this material is.)

History, site background

There are several inaccurate representations and omissions in the history and site background of the proposal.

Some of them include:

The statement that, "After the entry of the Consent Decree, public opposition to the incinerator rose", is false. There was massive public opposition to the CD and the proposed incinerator before the CD was approved.

One of the most visible expression of that opposition was the petition against the CD and the proposed incinerator. This petition was presented before the CD was approved.

Prior to the approval of the CD a Petition of Instruction was circulated against the CD and the proposed incinerator. This Petition of Instruction was explicitly circulated under the provisions of the Indiana Constitution that provide for the right of the people to petition and instruct their government and that all power is in the people and that the people, at all times, have an indefeasible right to alter and reform their government. All power is in the people, not EPA, the Judges, the Mayor, City and County Councils, the State or USB, the people. And the people have at all times, all times, not just every four years, the right to alter and reform and petition and instruct their government, (the Mayor, the councils, the state the USB, the EPA, etc.).

More people (eligible city voters) signed the petition against the CD and the incinerator than elected the Mayor or any of the City Council who signed it. The petition was presented to the Mayor and city council before they approved the CD or the incinerator.

Since all power is in the people, and not the Mayor, the City council, USB, The EPA, the Judges, Etc. They were without authority to approve the CD, and its is invalid and cannot be amended.

By approving the CD against the will and orders/instructions of the people, the City, EPA, the Judges, State, etc. are/were in contempt of the people and the orders/instructions issued to them, and should be restrained (maybe jailed) like parties are until they comply with the orders/instructions issued to them that they are required to abide by.

(At the City meeting where the petition was presented and the CD was illegally approved the city chambers room was completely filled with people, people were sitting in the isles and in front of the podium, people who could not enter

were standing in the hall and outside of the building. When the petition was presented to the city, the city, without even blinking, immediately moved to approve the CD without any discussion or consideration of the petition. The room erupted and the city sycophants fled the room.)

It is represented that NN was operated as a sanitary landfill.

In the deposition of Neal he states that ~60-70% of the waste hauled to Neals Landfill was industrial waste.

What is referred to as Neals Landfill was an Industrial waste dump, not a municipal waste dump or sanitary landfill.

NN was not operated as a sanitary landfill, and cannot be characterized as one as a result.

Neal did not cover waste, he burned, he dumped stuff directly on karst features scraped of cover, raw sewage and sludge was dumped, ect. It was not operated as a sanitary landfill or pursuant to what was required of a sanitary landfill to operate. Ray Neal was shut down for failing to operate as a sanitary landfill and lost his suit in court to get one permitted at that site.

Ray Neal operated NN (Neal's Nightmare/what's referred to as Neal's Landfill) as a private hazardous waste dump and was unable to get it permitted to operate as a municipal or sanitary landfill. As the State Board of Health stated in response to Neal's attempts to get his site permitted, "Geologic limitations of this site are of such severity as to preclude favorable consideration of sanitary landfilling on this area. ... In view of the foregoing this office cannot consider an approval of this site for the disposal of solid waste." You cannot now issue the "permit" to Neal and declare that NN is a municipal or sanitary landfill.

As the state Board of Health specifically informed Neal specifically concerning disposal of Westinghouse waste, "The method they have chosen calls for controlled burial. In fact, the method of disposal they (Westinghouse) outlined during a phone conversation with Mr. Shoaf (Westinghouse employee) does not appear to be at all feasible in the Bloomington area because of the local geology. (Emphasis added.)

Records and statements of people who were there, including Charlie Anderson, who managed NN, the state Board of Health, and others indicate that NN was burned almost every night. What was burned was whatever was disposed of that day, including PCB material, in order to reduce the volume of it. PCB material large piles of tires, TV cases, Charlie Anderson stated that there are "barrels of who knows what there" and that some of those "barrels would ignite and explode like roman candles" when the dump was burned.

Neighbors complained about the burning and disposal activities at NN for years. A petition was signed by hundreds of people nearly everyone in the area. One lady wrote, "The conditions are terrible. They burn at least twice a day and last night they burned all night. The debris (from the burning) in our yard this morning was awful." A letter from the state board of health to Neal about dumping activities at NN states, "We cannot certify that your method of handling waste material from the Westinghouse Corporation, Bloomington, is done in a manner that would be considered acceptable. Your current disposal practices include making a pile of the oil absorbing compounds containing a material called inerteen and then placing on

top of this several truck loads of waste cardboard, broken wooden pallets, waste paper, and defective transformer coil. You then set fire to the pile and allow all combustible material to burn as completely as it will naturally do.

It is represented that between 1966 and 1967 PCB material was dumped there. PCB material was dumped there at times other than these. EPA and ISBH reports and other information indicate PCB material was apparently dumped there other times in addition to 1966 and 1967. An EPA report capacitors were dumped at NN until 1971 and other reports indicate dumping at other times.

It is represented that between 10,000 to as many as 40,000 capacitors were disposed of at the site. This is incorrect.

EPA project manager Tom Alcoma in a 2/5/98 letter and filing to the Court states, "Records, however indicate that over 40,000 capacitors were disposed of in Neals's landfill and historical testimony indicates that disposal activities took place across the entire site. (The EPA enforcement confidential report on Neals Landfill and other sources also state this.

In addition to capacitors it states that PCB contaminated rags sawdust and fullers earth was dumped there, but fails to mention that liquid PCBs were also dumped there, not in capacitors.

W/CBS and other documents indicate that a huge quantity of PCBs was disposed of in saturated fullers earth and sawdust, (~1400 lbs/day), and as liquid PCBs, (20-30 55 gallon barrels per month) in addition to the PCBs in capacitors. More PCBs may have been disposed of in sawdust, fullers earth and as liquids than in capacitors.

Site background doesn't reflect how pathetic and inadequate interim measures were/are. Especially concerning the treatment of contaminated water leaving the site and the failure to determine the metes and bounds of the site, leaving contaminated material outside of the boundary. Many of the conditions that the interim measures were supposed to correct to eliminate the imminent and substantial endangerment the site poses, that were the reasons the EPA suit was brought and relief was sought, were not addressed by the interim measures in an impressive example of the kind of negligence and malfeasance that typifies how the sites here have been handled to the detriment of public health and the environment and Westinghouse benefit.

What's referred to as Neals Landfill is not a municipal or sanitary landfill

As EPA project manager Tom Alcoma stated in his 2/12/98 filing with Judge Foster disagreeing with CBS's interpretation of U.S. EPA guidance, "First Neal's landfill can only loosely be considered a municipal landfill and is more related to an

uncontrolled dump."

In Ray Neals deposition he stated that some 60-70% of what was dumped at what's referred to as Neal's Landfill was industrial waste.

What's referred to as Neal's Landfill does not have the characteristics that would qualify it as a landfill, municipal or otherwise, such as suitable geology or construction, disposal practices, or composition of waste.

It qualifies unequivocally as an uncontrolled dump, or as the early site inspection reports of what's referred to as Neal's Landfill were titled indicate an "Uncontrolled Hazardous Waste Site", ("Field Investigations of Uncontrolled Hazardous Waste Sites") and guidance or presumptive remedies for municipal Landfill sites or sanitary landfills do not apply.

Ray Neal operated NN (Neal's Nightmare/what's referred to as Neal's Landfill) as a private waste dump and was unable to get it permitted to operate as a municipal or sanitary landfill. As the State Board of Health stated in response to Neal's attempts to get his site permitted, "Geologic limitations of this site are of such severity as to preclude favorable consideration of sanitary landfilling on this area. ... In view of the foregoing this office cannot consider an approval of this site for the disposal of solid waste." You cannot now issue the "permit" to Neal and declare that NN is a municipal or sanitary landfill.

As the state Board of Health specifically informed Neal concerning Westinghouse waste, "We cannot certify that you method of handling waste material from Westinghouse Corporation, Bloomington, is done in a manner that would be considered acceptable. ... The method they have chosen calls for controlled burial. In fact, the method of disposal they (Westinghouse) outlined during a phone conversation with Mr. Shoaf (Westinghouse employee) does not appear to be at all feasible in the Bloomington area because of the local geology." (Emphasis added.)

Presumptive remedy does not apply and was specifically rejected and is superseded by site specific analysis and precluded by the CD

(As above Presumptive Remedy guidance or regulation for municipal Landfill Sites would not apply since NN was not a municipal or sanitary landfill.)

Presumed remedies are declared in lieu of a site specific analysis, supposedly so that all the work involved in a site specific alternatives evaluation does not have to be done.

As a result if a site specific alternatives evaluation was already done than a presumed remedy and guidance concerning it, would not apply. There is not a presumed remedy for a site that already has a site specific analysis.

Prior to the declaration of a presumed remedy, a variation of which is now the proposed remedy, NN already had a site specific analysis.

In this case the site specific alternatives evaluation done by EPA for the consent decree repeatedly and resoundly rejected what was declared to be the presumed remedy.

A presumed remedy and guidance or regulation concerning it, does not apply when a site specific alternatives evaluation has already been done and especially when site specific alternatives evaluation has already rejected it.

(Prior to the declaration of a presumed remedy, there was no new analysis

that indicated a remedy contrary to the findings of the site specific analysis.)

What happened here is that the EPA did a site specific alternatives evaluation that rejected any remedy other than complete excavation, as inadequate to control the source.

The next thing that happened, (without another evaluation) is that EPA declared there was a presumed remedy, a variation of which is the proposed remedy.

Well, presumed remedies are used in lieu of a site specific alternatives evaluation, supposedly so that all the work involved in a site specific alternatives evaluation does not have to be done.

Since a site specific alternatives evaluation was already done there is/was no presumed remedy that could be declared and guidance or regulation concerning it and the presumed remedy would not apply. In addition the presumed remedy and guidance concerning it, would not apply since it was repeatedly and resoundly rejected by the site specific alternatives evaluation that had occurred.

As articulated in the EPA's EDD, "Enforcement Decision Document", "Remedial Alternative selection", and its attached "Position Document for Remedial Issues In Westinghouse Case..." and other documents, the aim of the consent decree a result of EPA's analysis and site specific evaluation was for all the PCB contaminated material at these sites to be excavated to 1 ppm or less, (not left there.) Source control or other remedies were rejected as "inadequately minimizes the threat from the source", with governmental parties declaring that

" due to the fractured limestone geology containment remedies are not feasible at the sites, (note on pg 14).

certain classes of land disposal facilities are not capable of assuring long-term containment of certain hazardous wastes (note on pg 11 citing U.S.C.)

...the sites must be cleaned up. The Consent Decree accomplishes this result in a manner that will leave the sites essentially free of PCBs... (pg 44) "

(From the Request of the United States To Enter The Consent Decree and Response to Public Comments lodged and reviewed by the Court in approving the consent decree.)

" Basic Premise No 1: The PCB Contaminated Material Must Be Excavated."

It is the consensus of the federal EPA, State of Indiana and the City's public health and hydrologic experts that leaving the material at the site posed an unacceptable long-term public health hazard because the high level of PCB contaminated materials will continue to leak PCBs for thousands of years." "This decision to excavate has been made. Even if local authorities opposed excavation, the federal and state authorities have found excavation to be necessary to protect public health. ...

The sites must be excavated; they cannot be left as repositories of PCB contamination for thousands of years. "

(Joseph Karriganis the architect of the consent decree and chief spokesperson during its passage.)

State Feasibility Study and the EPA presumed remedy

About concurrent with the EPA declaring there was a presumed remedy for NN and other sites, the State was doing a feasibility study for the CD sites.

The State evaluation of alternatives did not evaluate what the EPA declared was the presumed remedy for these sites. How could an evaluation of alternatives not evaluate a presumed remedy? How could it have been overlooked or avoided? Because it does not apply.

Failure to comply with law and regulation or address site conditions

EPA's and U.S. statements in their 2/5/98 and 2/12/98 submitalls to the Court concerning the geology, hydrology, site conditions and what is required by guidance and law, and necessary in order to consider or permit leaving waste in place in the central portion of the site and piling other waste on top of it ("piggybacking") reveal the proposed action should not be permitted.

Present proposal flies in the face and is contrary to the representations made by EPA and the United States in their 2/5/98, and 2/12/98 filings with the Court concerning the inadequacies and deficiencies of containment and consolidating material on top of NN which is the present proposal and lists requirements which must be met which the present proposal does not meet. The facts and information stated by EPA and the United States in their 2/5/98, and 2/12/98 filings with the Court concerning the inadequacies and deficiencies of containment and consolidating material on top of NN and the list of requirements which must be met in those filling which the present proposal does not meet renders the present proposal inappropriate, unwarranted and unjustifiable.

As the United States stated in their 2/12/98 filing with the Court, "Even if all remediation activities are considered "onsite" CERCLA requires full compliance with all substantive requirements for all applicable laws and regulations".

As the United States in their 2/12/98 filing with the Court "the substantive requirements" of TSCA and RCRA "for the sitting, construction, and operation of a landfill under TSCA and RCRA", are nevertheless required, as are any other ARARs". The filling goes on to list what some of those requirements are, none of which the present proposal provides for.

Present proposal does not conform to the listed requirements or the substantive requirements" of TSCA and RCRA "for the sitting, construction, and operation of a landfill under TSCA and RCRA" which the U.S states are required.

(The 2/12/98 submittal indicates waivers to the TSCA and RCRA requirements, are unlikely and not forthcoming.)

The United States in their 2/12/98 filing with the Court indicates that NN has "hazardous substances which render the material "hazardous waste" subject to disposal in accordance with RCRA" and that "RCRA hazardous waste landfill requirements" are necessary .

In addition the U.S in their 2/12/98 filing with the Court and sampling data, indicate that TCE, a carcinogenic organic solvent, is present at NN. Other sampling information (including recent sampling) and reports concerning what was dumped at NN indicate the presence of other solvents at NN. The U.S in their 2/12/98 filing

with the Court states that "TSCA regulations requiring(e), among other things, to segregate "other wastes placed in the landfill that are not chemically compatible with PCBs and PCB items including organic solvents..." "

The present proposal does not comply with these TSCA and RCRA requirements.

At a minimum the site activities delineated in the 2/5/98 and 2/12/98 submittals must be undertaken before it can even be determined whether the proposed plan could be undertaken and then the actions and requirements specified in the EPA's and U.S. statements in their 2/5/98 and 2/12/98 filings to the Court must be met before material could be placed, "piggybacked", on top of material in the central portion of the site as EPA states, "is the only way to ensure that PCB and RCRA material... (present at NN) can be disposed of at Neals' landfill in a manner that is protective of public health and the environment." "EPA rejects the Neal's Landfill "piggybacking" concept on substantial environmental ground, because it would not provide the necessary assurance that placement of PCB and RCRA waste...(on top of the central portion of NN) would be protective of human health and the environment."

Risk at NN

The Proposed plan states that Milton Clarks 11/30/98 EPA memo is an analysis of the risk at Neals landfill.

There are a number of contaminants of concern that have been ignored or overlooked or improperly investigated by the parties. The presence of these compounds at these sites have not been properly evaluated or incorporated into the parties plans, activities or decisions here.

The risks posed by a site that would determine a remedy, plan or what action should be taken are cumulative risks based on adding all the risks from all the hazardous compounds present, and there is no risk that has been assigned to the presence of any compound other than for aroclor mixtures of PCBs.

Absent entirely are all the other elements that would constitute an analysis of the risk at NN, i.e. a risk assessment.

Milton Clark's memo is in no way an analysis of the risk the site poses. No assessment of risk has occurred as necessary in order to select a remedy.

ARARs

ARARs that failed to be listed or considered.

1985 consent decree requirements.

(EPAs EE/CA for Winston-Thomas identifies the 1985 consent decree requirements as an ARAR.)

Endangered Species Act

As stated in a 1/27/83 letter from IDNR to EPA, "Several caves with

overwintering populations occur within one mile of the Neal Landfill. It is very likely that these populations forage on and in the vicinity of the Neal landfill." Indiana Bats would also likely forage in the stream corridors that are contaminated with PCBs on insects likely contaminated by those streams. The impact of activities at NN on these animals has not been assessed.

Consent Decree Requirements and the aims of the consent decree that Judge Foster has been appointed to implement

2/18/98 letter to Judge Foster attached and incorporated by reference.

Added as an addition are letters to Indiana Congressman from EPA, statements by EPA that if the CD is modified that any alternative considered must achieve a level of removal (and destruction) of PCBs and material contaminated with PCBs equal to or greater than the degree and extent of removal and destruction provided by the consent Decree. And a statement by Westinghouse that any alternative must treat the amount of material delineated in the CD.

The requirements and aims of the CD are not being implemented as required.

Remedy selected ignores dangers the site poses

In addition to the statements of the parties to the judge and others in coming to the consent decree about the dangers the sites pose and how complete excavation is the only remedy which

"adequately minimizes threat from the source", that,

"due to the fractured limestone geology containment remedies are not feasible at the sites", that

"It is the consensus of the federal EPA, State of Indiana and the City's public health and hydrologic experts that leaving the material at the site posed an unacceptable long-term public health hazard because the high level of PCB contaminated materials will continue to leak PCBs for thousands of years.

The sites must be excavated; they cannot be left as repositories of PCB contamination for thousands of years. " ect.,

the recently implemented remedy and amendments to the CD for the other consent decree sites, W-T Neals Dump and Bennets Quarry were for complete excavation, supposedly because of the dangers those sites posed.

The difference between those other sites and NN and LL is not in the danger they pose, but in the cost of cleaning them up. The difference between NN and LL and the other sites is one of size and amount of contaminated material. A difference that makes them more dangerous, not less than the other sites and more in need of the cleanup required by the CD.

We got the CD because Westinghouse /CBS wanted it for financial reasons. They believed they were going to make money off the community they poisoned, cleaning up the contamination they were responsible for. (By charging a tipping fee for trash and selling electricity in running the incinerator.) Essentially the

community Westinghouse contaminated was going to pay for the cleanup of the contamination Westinghouse was responsible for.

The thing that's changed since the consent decree is not the amount of money that must be spent to clean up the sites, but who pays it. Now that Westinghouse, instead of the community Westinghouse contaminated, must pay to do the cleanup agreed to be done by Westinghouse and repeatedly and resoundly stated by the governmental parties as required to "adequately minimize the threat from the source" for the protection of health and the environment,, the required cleanup is not going to occur.

It appears an alternative to the CD was pursued because W/CBS wasn't going to make money off the CD remedy. (Public opposition and the danger of the incinerator meant nothing then and means nothing now.) It ended up that the CD was going to cost W/CBS, instead of making money off it, so it is gone.

It appears we are getting the present proposal, not because of the dangers to public health and the environment associated with the remedy that is now being proposed that were clearly voiced by the government parties in coming to the CD, but because of W/CBS's financial considerations.

Cleanup Levels

500 ppm PCBs is too high and not protective.

Milton Clark stated in his 11/30/98 setting cleanup standards that PCB waste under 500 ppm which have high potential to become wet will be removed and placed in less vulnerable landfill locations.

As described in EPAs 2/5/98 filing to the court. Those locations have not been identified and the central portion of the landfill cannot be said to be one, or a location for wastes 500 ppm or greater.

Ground Water

An expectation of the NCP is that groundwater will be returned to beneficial uses. This has not been acknowledged, or evaluated, but simply ignored.

Premature to put forth a remedy without evaluating the water situation.

As described in EPAs 2/5/98 filing to the court. The hydrology and geology of this site preclude the present proposal.

Geology, hydrology, site conditions

In EPA's 2/5/98 submittal to the court EPA stated, "to base a remedy decision of interpretations and unknowns such as subsidence is risky

Susidence is already known to have occurred in the central portion of NN where wastes are intended to be placed, "piggybacked".

Seeps have been observed in the central portion of the site where wastes are intended to be placed, "piggybacked".

4 pizometers in the central portion of the site cannot determine what or where lecate leaves the landfill or if it is present.

A claim that NN may have no lecate from the central portion of the site woud be/is ludicrous.

Placing waste on top of the site, "piggybacking", is inappropriate and not permitted as the demonstration "that groundwater wipl not be contaminated beyond 100 feet from the site, over a 100 year period", before Placing waste on top of the site, "piggybacking", cannot be made because PCB release are occuring and waste at the site contains both PCBs and RCRA waste.

Waste at the site was dumped directly on top of Karst features that had been scraped of cover. This occurred in the central portion of the site where wastes are intended to be placed, "piggybacked".

As described in EPAs 2/5/98 filing to the court. The hydrology and geology of this site prelcude the present proposal.

With respect to what is referred to as Neals Landfill, what may be the only summary document of one category of results that exists, that I am aware of, that apparently was/has not been provided, (one of many documents that has not been provided in contradiction to EPA's claim that they have provided everything) and is not listed in the Administrative Record for what's referred to as Neals Landfill, but is listed in the references of what is called the, "Final Data Evaluation Reports for RI/FS Study...Neals Landfill Site..", is, "Map Showing Historical Groundwater PCB Analytical Results", Earth Tech. February 1998.

So you can send the, "Map Showing Historical Groundwater PCB Analytical Results", Earth Tech. February 1998.

And:

The SOW, for the Sampling and Analysis Plan, contract no 68-W7-0003 done by Tetra Tech. The "Field oversight summary, Remedial Investigation Activities, Neal's Landfill." "Final Site-specific Plans for RI/FS Study...". "Test Methods for Evaluating Solid Waste," Indiana Geological Survey Bulletin 12." (Also referred to in "Final Data Evaluation Report for RI/FS Study...Neals Landfill Site..")

With respect to soil testing results I would like a list of all soil test events, all maps of test locations or other information identifying the location of tests for each event, and the test results for each event, and other information as stated above.

I reserve the right to make additional comments on what's referred to as Neal's Landfill, after receiving this information.

I will make a table of contents and send it later.

February 18, 1998

Jim Cartmell
5994 East State Hwy 46 (mailing)
Bloomington, IN 47401

Re: Westinghouse/CBS Bloomington PCB Sites
Cause # IP 83-9-C-D/F, # IP 81-448-C-D/F

Hon. Kennard P. Foster, Magistrate Judge
U.S. District Court
Rm 277 US Courthouse
46 E. Ohio St.
Indianapolis, IN 46204

I understand you have been appointed in this case to see that the aims of the consent decree are carried out and to supervise the implementation of the consent decree.

I have recently learned that if people believe the public interest is not being adequately represented or considered in the above case, people can express that to the Court.

I have spent thousands of hours working on the hazardous waste problems here associated with the Westinghouse/ CBS sites over the course of more than 15 years.

I have a number of concerns a few of which are expressed briefly here.

Proposed remedy(ies) contrary to aims of consent decree

Remedies being proposed are contrary to the aims of the consent decree which the parties have all so regularly stated they are bound by.

The consent decree, pg 90 provides that a remedy, other than the remedy in the consent decree (incineration) can be used, provided the remedy,

"will: (1) achieve a level of removal and destruction of PCBs and material contaminated with PCBs equal to or greater than the degree and extent of removal and destruction provided by this Consent Decree including the degree of destruction required of the incinerator and..."

The remedy(ies) being considered for the Bloomington consent decree sites is landfilling with some combination of removal, hot spot cleanup, and capping and leaving in place.

None of the proposed remedies achieves a level of removal and destruction equal to or greater than the degree and extent of removal and destruction provided by the Consent Decree.

An aim of the consent decree, the level of removal intended to be

accomplished by the consent decree is for the PCB material at these sites to be removed, not left there.

The degree and extent of removal intended to be accomplished by the consent decree declared in the EPA's Enforcement Decision Document and its attachments, is 1 ppm or less for the PCB contaminated material at these sites.

The level of destruction provided by the consent decree is 99.9999%. The proposed remedies of landfilling or capping and leaving in place have a level of destruction of 0.0000%.

If the parties want to change the remedy, the aims of the consent decree require that the level, degree and extent of removal and destruction be equal to or greater than those in the consent decree. The proposed remedy(ies) do not accomplish this.

Degree and extent of removal, cleanup level

The aims intended to be implemented by the consent decree declared in the EPA's EDD, "Enforcement Decision Document", "Remedial Alternative selection", and its attached "Position Document for Remedial Issues In Westinghouse Case..." and other attachments is for all the PCB wastes at these sites to be cleaned to 1 ppm or less.

(EDD and its "Position Document for Remedial Issues in Westinghouse Case..." and "Summary of Remedial Alternatives Selection Westinghouse Sites", attached, marked P1, P2, P3, respectively.)

Proposed remedy(ies) already considered and rejected as inadequate

The aim intended to be implemented by the consent decree was for the PCB material at the sites to be excavated and treated. The governmental parties repeatedly and resoundly rejected containment or leaving waste in place as unacceptable in arriving at the consent decree. Westinghouse originally proposed containment or leaving waste at the sites, but this was rejected by the governmental parties and agreed to by Westinghouse/CBS in the consent decree.

The aims intended to be implemented by the consent decree declared in the EPA's "Enforcement Decision Document, Remedial Alternative Selection" (attached P1) and its attachments and the "Summary of Remedial Alternatives Selection, Westinghouse Sites" (attached P3) were removal of all waste; and rejected as unacceptable, the remedy(ies) now being proposed of leaving waste in place.

For instance, at Lemon Lane, where at present leaving waste there is being considered, "Removal of all PCB contaminated waste" was the remedy chosen by the Summary of Remedial Alternatives, and stated to be the only remedy which "adequately minimizes the threat from the source", with all other remedies such as "permanent cover and other source control measures" rejected as "inadequately minimizes the threat from the source".

"The sites must be excavated; they cannot be left as repositories of PCB contamination for thousands of years."

"... basic premises which we all should keep in mind in considering the decree. Basic Premise No 1: The PCB Contaminated Material Must Be Excavated."

"It is the consensus of the federal EPA, State of Indiana and the City's public health and hydrologic experts that leaving the material at the site posed an unacceptable long-term public health hazard because the high level of PCB contaminated materials will continue to leak PCBs for thousands of years." "This decision to excavate has been made. Even if local authorities opposed excavation, the federal and state authorities have found excavation to be necessary to protect public health." 00000(Joseph Karrigannis the architect of the consent decree and chief spokesperson during its passage, attached P4.)

" due to the fractured limestone geology containment remedies are not feasible at the sites, (note on pg 14).

...sites involved in the settlement are situated in karst topography... (pg 29) Due to the nature of these formations, groundwater does not flow in an established pattern... There may be major channels at some points in the underlying system..., but those channels carry only a portion of the groundwater which flows in the system. (pg 30)

Leaving the hazardous waste in place... Or transporting the waste to an offsite landfill only postpones the problem until another day... (pg 42)

certain classes of land disposal facilities are not capable of assuring long-term containment of certain hazardous wastes (note on pg 11 citing U.S.C.)

...the sites must be cleaned up. The Consent Decree accomplishes this result in a manner that will leave the sites essentially free of PCBs... (pg 44) "

(From the Request of the United States To Enter The Consent Decree and Response to Public Comments lodged and reviewed by the Court in approving the consent decree.)

Under the consent decree with incineration as the remedy Westinghouse was going to make money off the community they contaminated cleaning up the contamination they are responsible for, by charging a tipping fee for trash and selling electricity in running the incinerator. Essentially the community Westinghouse contaminated was going to pay for the cleanup of the contamination Westinghouse was responsible for.

The only thing that's changed since the consent decree is the amount of money Westinghouse must pay to do the cleanup agreed to be done by Westinghouse and repeatedly and resoundly stated by the governmental parties as required to "adequately minimize the treat from the source" for the protection of health and the environment.

(It cannot be an aim of the consent decree or the court to make the contaminated community the party responsible to pay for the cleanup of Westinghouse/CBSs contamination.)

Highly toxic or long lived material not suitable for containment

("PCBs are extremely toxic", pg. 7 of the "Request of the United States To Enter The Consent Decree and Response to Public Comments", lodged and approved by the Court in this matter and citing Environmental Defense Fund V. EPA 636 F. 2d at 1270; long term threat pgs 6 and 7 supra)

There is other even more highly toxic material present at these sites as a result of the extensive burning of capacitor fluids and other material at these sites. At other locations where fires involving electrical equipment containing PCBs have occurred, PCBs have not been the compounds of most concern, greatest risk, driving the risk or cleanup or other action. The presence of these compounds at these sites have not been properly evaluated or incorporated into the parties activities or decisions here.

The parties have not yet identified the PCB hot spots in these sites much less dealt with other significant contaminants of concern.

PCB's are extremely toxic and pose a long term threat.

Since the consent decree PCBs and other even more highly toxic material created as a result of the extensive burning of PCB material at these sites, have been found to be more toxic than previously acknowledged, not less, and this material has been stated by the governmental parties to be toxic for hundreds and hundreds of years.

Under the NCP, and in the guidance adopted by the parties, and common sense, long lived or highly toxic material are not appropriate for engineering controls such as containment at these sites, especially given the karst topography. As excavation of the material at these sites has already been chosen and agreed to by the parties, including Westinghouse/CBS in the consent decree it can hardly be deemed impracticable.

In coming to the consent decree the governmental parties repeatedly stated the material must be excavated from these sites and held that out as an aim and basic premise of the consent decree to which Westinghouse agreed. I would like to see that aim implemented.

Sincerely,

Jim Cartmell

MONTGOMERY COUNTY LIBRARY

1000 N. Kirkwood

Indianapolis 47401

ENFORCEMENT DECISION DOCUMENT
REMEDIAL ALTERNATIVE SELECTION

rec'd 8/5/87 am
3 pp
Site: Westinghouse Sites, Bloomington, IN
Neals Landfill
Neal's Dump
Lemon Lane Landfill
Bennett's Quarry
Winston Thomas Sewage Treatment Plant
Anderson Road Landfill

Analysis Reviewed

I am basing my decision on the following documents describing the analysis of remedial alternatives for the above sites in the Bloomington, Indiana area.

1. Summary of Remedial Alternatives Selection (6 documents for each of the six listed sites above).
2. Memorandum dated 8/3/84 from Val V. Adamkus to Lee M. Thomas "Recommendation of Selected Remedial Activities at Westinghouse Sites".
3. Memorandum dated 8/27/84 from Robert A. Schaefer and Basil G. Constantelos to Lee M. Thomas "Position Document for Remedial Issues in Westinghouse Case Proposed Settlement".
4. Enforcement Record of Decision, Remedial Alternative Selection, Neals Landfill, signed by Gene A. Lucero 7/22/83.
5. Enforcement Record of Decision, Remedial Alternative Selection, Neal's Dump, signed by Gene A. Lucero 7/22/83.

In addition, I have discussed the issues involved in this case with my staff and considered their recommendations.

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U.S. EPA AREA 1
WEST MICHIGAN DISTRICT
BLOOMINGTON, INDIANA 47401

(P)

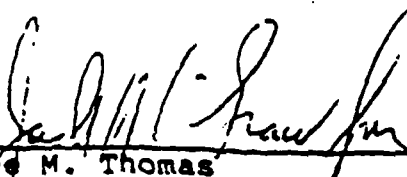
Description of Selected Alternatives

1. Excavation of PCB contaminated waste from Neals Landfill, Neal's Dump, Lemon Lane Landfill, Bennett's Quarry, Winston Thomas Sewage Treatment Plant, Anderson Road Landfill.
2. Excavation of PCB contaminated sediments from Conard's Branch, Richland Creek, Clear Creek, Stout's Creek and Salt Creek.
3. Treatment of PCB contaminated surface water to effluent standard for granulated activated carbon.
4. Design, construction and operation of an incinerator that will meet all RCRA and TSCA requirements.
5. Destruction of excavated waste in the incinerator using municipal refuse from the Bloomington area and other auxilliary fuel; proper disposal of incinerator ash.
6. Interim remedial measures to stabilize the sites until the incinerator is permitted and excavation can begin.
7. Storage of PCB contaminated wastes removed during the interim remedial measures in compliance with TSCA technical requirements.
8. Closure and post closure activities.
9. Ground-water monitoring and provision for providing alternate water where private wells are threatened.

Declarations

Consistant with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), and the National Contingency Plan, I have determined that the above remedy for the Westinghouse sites listed above is a cost-effective remedy that provides adequate protection of public health, welfare and the environment. In addition, the action will require further operation and maintenance activities to ensure the continued effectiveness of the remedy. These activities are a part of the approved action.

The State of Indiana has been consulted and agrees with the remedy. Settlements have been reached between EPA and the responsible party based on the selected remedy.



Lee M. Thomas
Assistant Administrator for
Solid Waste and Emergency Response

DEC 4 1984

Date

22

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303 East Mulwood
Bloomington, Indiana 47401



UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION 5
230 SOUTH DEARBORN ST
CHICAGO ILLINOIS 60604

REPLY TO ATTENTION OF

Rec'd 8/5/87 - Mr

AUG 27 1984

MEMORANDUM

SUBJECT: Position Document for Remedial Issues in
Westinghouse Case Proposed Settlement

FROM: Robert R. Schaefer and Basil G. Constantelos
Regional Counsel and Director, Waste
Management Division

TO: Lee M. Thomas
Assistant Administrator for
Solid Waste and Emergency Response

As discussed during our August 7, 1984 briefing, there are five remedial issues within the proposed settlement of the Westinghouse case which require the determination of Agency positions at this time. Those issues, along with the conclusions reached during the briefing and a statement of the justification for those positions, are described below.

1. Cap Design - During the briefing, the question arose as to the conformance of the final caps included in the proposed remedial activities with the regulatory requirements under the Resource Conservation and Recovery Act (RCRA). The regulations at 40 CFR § 264.310 have been reviewed and it is clear that the final caps contemplated in the settlement comply with each of the relevant performance standards delineated in that section.^{1/} The provisions for each of the caps were drafted with the RCRA regulations as well as the geological setting of each site, in mind. It must be remembered that virtually no PCBs should remain in the sites after removal and prior to capping.

^{1/} Each of the caps is designed with a compaction rate to eliminate or minimize the migration of liquids through the site, with a slope to promote drainage and minimize erosion and to accommodate settling and subsidence through maintenance measures. Since there is no bottom liner system at any of the sites, the cap will have a lower permeability than the base of the site. Each cap will also be maintained in accordance with...

2. Extent of Removal - The proposed remedial activities include provisions for Westinghouse to excavate specified materials at each site and then to remove an additional "buffer zone". In each instance, the "buffer zone" which ranges from six inches to three feet depending on the area of removal, has been computed based on the modelling efforts of a geochemist retained for his nationally recognized expertise on fate and transport of polychlorinated biphenyls (PCBs) in soils. Based on actual tests using soils and PCBs from one of the sites, an adsorption and transport rate was calculated and used in models to compute anticipated migration rates. The "buffer zones" provided in the proposed settlement represent the expert's conservative conclusion as to the amount of material which should be removed in order to attain a clean up level down to 0 to 10 parts per million (ppm). The expectation of the geochemist is that the actual concentration of PCBs left will be closer to zero or one ppm than ten. In many areas, excavation will be to bedrock so that no residual contaminated soils will remain. Given the calculated anticipated migration rates, toxicological and geochemical experts' conclusion is that exposure of groundwater, aquatic organisms and humans to PCBs from these sites will not pose a threat.

EPA initially sought to obtain a commitment to a cleanup of PCBs down to 1 ppm. That level was selected based on a determination that 1 ppm in residual soils which were then capped and monitored would be both attainable and minimize any health and environmental risks associated with the sites. The EPA originally proposed a scheme whereby Westinghouse would excavate the refuse, test the remaining surface using a grid pattern and then excavate more material until the 1 ppm level was reached. Westinghouse has refused to accept such a plan, primarily because of the uncertainty it entailed as to the amount to be excavated and therefore the associated costs of the project. Westinghouse was also concerned with the additional costs of the sampling and analysis program this approach would require. The EPA was also concerned about the technical feasibility of developing a workable program for grid sampling for each site after removal of wastes due to the sites.

Consequently, the "buffer zone" concept was developed with a conservative educated estimate as to the depth of excavation needed to secure the necessary clean up. To further protect health and the environment, each site will be capped, and subsequently monitored for up to thirty years. EPA will undertake confirmatory sampling efforts as part of its compliance monitoring program.^{2/}

During the briefing session, the Office of General Counsel brought up the concern that if these sites are viewed as storage facilities that are being closed, then under the RCRA regulations all hazardous wastes and residues must be removed. It is highly improbable that anyone would view these landfills as storage facilities rather than disposal sites. The only site involved which might conceivably be considered a storage facility would be the Winston-Thomas Treatment Plant. At that facility, the proposed settlement would require Westinghouse to remove all stored materials so that the RCRA regulatory requirements would be met if they were deemed to be applicable. However, given the 40 CFR §261.4(a)(ii) exclusion for wastes mixed with domestic sewage, it is clear that RCRA does not apply to the Plant. In addition, it seems clear that the RCRA regulations would not apply to any of

^{2/} Excavation at the Lemon Lane Landfill site follows a slightly different pattern. Westinghouse will excavate all material down to the level of the landfill in 1958 which was the year in which Westinghouse commenced operations in Bloomington. Prior to 1958, Lemon Lane had been operated as a municipal landfill for some years. Westinghouse will remove that portion of the Landfill that has become contaminated by PCBs. Once Westinghouse has removed material to the 1958 level, they will take samples and analyze them for PCBs. All material containing 50 ppm or more of PCBs will be removed. Westinghouse will then excavate an additional three foot "buffer zone" (or to bedrock if less than three feet of materials remains) into whatever refuse (two feet in natural soils) remains below the 50 ppm surface.

these sites since none was an existing facility subject to interim status rules and none are active hazardous waste management facilities in need of permits. Even if the RCRA regulations are determined to have some applicability to the removal activities, the requirements for closure are met.^{3/}

3. Groundwater- Four of the six sites involved in the proposed settlement are located in areas of fractured and cavernous limestone bedrock. Karst surface features such as sink holes, seeps and springs are commonly observed on or near these sites. It would be impossible to reliably locate purge wells or an interceptor device since the groundwater follows solution features through the limestone and its direction, route and rate of flow may change as the water level within the system fluctuates.^{4/} Due to the fractured nature of the underlying bedrock, groundwater purging or containment is not feasible.^{5/} It should also be noted that no contaminated groundwater has been detected in any offsite well at Neal's Landfill, Neal's Dump and Lemon Lane Landfill. Offsite wells near other sites will be installed and/or sampled as part of the proposed settlement.

Based on the expert assessment that groundwater purging or interception is infeasible, EPA has developed an alternative strategy for addressing any real or potential groundwater contamination problem at these sites. Under the proposed

^{3/} The closure provisions of the Consent Decree may be viewed as analogous to a RCRA closure plan and the public comment period for the Decree as satisfying the public comment requirement for closure plans.

^{4/} Three different groundwater flow directions have been found at the Lemon Lane Landfill site so far depending on varying weather conditions and time of the year. The directions do not seem to be predictable.

^{5/} See attached statements of Dr. Powell and Dr. LaMoreaux, two nationally known karst experts, for more details. These have been provided previously as part of the briefing package and are attached here for your convenience.

settlement, Westinghouse will be required to monitor groundwater at all sites, both at onsite and offsite wells. If the monitoring program indicates the presence of PCBs in any offsite well, Westinghouse will be required to provide an alternative permanent water supply to all well users in the anticipated flow path. In addition, source removal will eliminate or minimize the volume of PCBs available to the groundwater systems and caps will control infiltration at each site so that that potential driving force for migration is minimized. At Neal's Landfill, the only site known to have a direct linkage between a groundwater discharge and a surface stream, the spring discharges of groundwater will be treated by a treatment system before it enters the stream. The final element of the groundwater approach is that Westinghouse will not be released for liability as to groundwater except to the extent that they supply alternative water to well users and only then as to liability for supplying water within the one mile radius of the sites that is subject to monitoring.

4. Extention of TSCA One Year Storage Limitation - Under the interim measures and initial removal requirements in the proposed settlement, Westinghouse will be removing PCB contaminated materials from uncontrolled areas such as stream beds and unprotected surfaces, before the incinerator permitting is completed. The settlement would permit Westinghouse to store these materials in a building at the Winston-Thomas Plant until the incinerator is on line. According to 40 CFR §761.65(a), PCB materials may only be stored for one year prior to disposal: in this instance storage will be necessary for more than one year. In order for EPA to waive the one year storage limit Westinghouse will be required to comply with all other elements of the TSCA regulations as well as more stringent inspection and reporting responsibilities. This waiver will enable Westinghouse to remove PCBs from uncontrolled areas to a secure storage location more quickly and result in the incineration of PCB materials which might otherwise be simply landfilled elsewhere in accordance with 40 CFR § 761.75.

5. RCRA Pre-Construction Ban - 40 CFR §270.10(f) provides that no person may begin the physical construction of a hazardous waste management facility without having first obtained a final permit. In this case, Westinghouse is agreeing to build a RCRA permitted incinerator dedicated to the destruction of materials from the six sites. The incinerator will not be used as a commercial hazardous waste disposal facility: once site cleanup is completed the facility will be used for municipal waste incineration or demolished, at the City's option. If Westinghouse is required to comply with the pre-construction ban, the permitting process is anticipated to delay construction and consequently excavation and remediation of the sites for approximately two years. Therefore, in order to effectuate the most expeditious remedy possible, Westinghouse would be required to construct and operate the incinerator in compliance with all applicable laws as a municipal waste facility prior to obtaining the RCRA permit. During the permitting process, Westinghouse will make whatever modifications to the incinerator are necessary and operate as a hazardous waste incinerator once the final permit is received. Westinghouse has agreed to rebuild and redesign the incinerator in order to meet all permit conditions. In addition to allowing earlier removal, this chronology will enable Westinghouse to supply the permitting authorities with information about actual operations to use in developing test burn and permit conditions prior to burning hazardous waste and PCBs.

EPA is developing policy concerning the need to comply with other environmental laws and regulations during CERCLA cleanups. Waiver of other environmental laws and regulations may only be made in certain circumstances including instances in which the public interest is better served through waiver of some particular requirement. Since the public interest is better served through timely cleanups, the pre-construction ban should be waived in this instance. Section 106 of CERCLA specifies that the Agency may under take actions in the interest of the public

health and the environment.^{6/} That provision, as well as the EPA policy would clearly be met here since allowing Westinghouse to proceed would eliminate two years of delay in removing PCBs from areas in which they present documented hazards to the environment and health.

The rationale for the pre-construction ban concerned the desire to insure public participation in siting decisions and public comment on a proposed permit, and to avoid the argument that a permit should not be denied given the capital investment already made by the permit applicant in constructed facilities. In this instance, the opportunity for public participation is well protected both through the comment period on the Consent Decree as well as through the usual comment periods during the permitting processes. The EPA, State and City of Bloomington will all conduct public meetings prior to the signing of the Decree so that ample opportunity

6/ Alternative mechanisms for allowing Westinghouse to construct the incinerator prior to receipt of the RCRA permit would be to say that the incinerator will not be used to burn any hazardous wastes and therefore does not need a RCRA permit to operate, or to view the incinerator as a municipal waste facility when built that only later will become a hazardous waste incinerator. Neither of these positions is tenable in this instance. The first possibility is not appropriate since we can not reliably conclude that no hazardous waste will be contained in the excavated materials to be incinerated. Adoption of the second position would set an undesirable precedent for the Agency: we are aware of Westinghouse's intention to burn more than municipal solid waste, and to "pretend" that the incinerator is for destruction of those solid wastes only would be to open a loop-hole that other entities could take advantage of.

for questions will be provided.^{7/} As to the capital investment argument, the proposed settlement incorporates several statements that the agreement does not stand in lieu of any element of the permitting process and that Westinghouse must secure all permits. In addition, Westinghouse has agreed to redesign or rebuild the incinerator as necessary to meet permit conditions. Westinghouse would be knowingly bearing the risk of the capital expenditures.

We believe that this memorandum accurately reflects the conclusions discussed during the August 7, 1984 briefing. If you have any questions concerning the subject matter of this memo, or the Westinghouse case in general, please feel free to contact us.

^{7/} The public meeting schedule prior to signing of the Decree includes a initial meeting sponsored by the EPA, four consecutive weekly meetings sponsored by the City as well as public sessions of the City Counsel for four readings of a resolution to sign the Decree and a public session of the Indiana Environmental Management Board. Once the Decree is lodged with the Court, the Judge may order hearings to be held at his discretion in addition to the regulatory comment period. The Decree also preserves all opportunities for public participation through the permitting processes.

Lee -
Please be advised that I reviewed
the memo as this memo with
all prior to signing this in
our absence.

[Signature]

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Summary of Remedial Alternatives Selection
Westinghouse Sites

<u>Alternative</u>	<u>Costs</u>	Public Health <u>Considerations</u>	Environmental <u>Considerations</u>	Technical <u>Considerations</u>	<u>Other</u>
Neals Landfill					
1. <u>System A Removal</u> of all waste from landfill site and contaminated sediments from Conard's Branch and Richland Creek water treatment facility	\$47,846,000	Adequately minimizes the threat from the source	Adequately minimizes threat from the source	Source removal; removal of off-site contamination	None
2. <u>System B</u> Installation of a permanent cover and deep interapter contaminated sediments in Conard's Branch of Richland Creek water treatment	\$23,152,000	Inadequately addresses threat from the source	Inadequately addresses threat from the source	Source containment and off-site contaminations;	high O/ costs
3. <u>System C</u> Installation of a permanent cover; removal of contaminated sediments from Conrads Branch and Richland Creek	\$15,373,000	Inadequately addresses threat from the source	Inadequately addresses threat from the source	Source controls (see above)	high O/ costs

<u>Alternative</u>	<u>Considerations</u>	<u>Considerations</u>	<u>Considerations</u>	<u>Considerations</u>
<u>Lemon Lane Landfill</u>				
1. Negotiated settlement; Removal of all PCB contaminated waste	adequately minimizes the threat from the source	adequately minimizes the threat from the source	source control	none
2. Other Alternatives				
a. permanent cover and other source control measures	inadequately minimizes the threat from the source	inadequately minimizes the threat from the source	source controls infeasible due to subsurface conditions	none
<u>Bennetts Quarry</u>				
1. negotiated settlement Removal of remaining PCB contaminated waste	adequately minimizes the threat from the source	adequately minimizes the threat from the source	source removal	none
2. other alternatives a. permanent cover and after source control measures	inadequately minimizes the threat from the source	inadequately minimizes the threat from the source	source controls in- feasible due to sub- surface conditions	none
<u>Winston Thomas Facility</u>				
Treatment Plant				
1. Negotiated settlement Removal of all contaminated waste	adequately minimizes the threat from the source	adequately minimizes the threat from the source	source removal	none
2. Other alternatives a. permanent cover; other source control measures	inadequately addresses the threat from the source	inadequately address the threat from the source	source controls infeasible due to subsurface conditions	none

Basic Premise No. 1:
The PCB Contaminated Material Must Be Excavated

The material cannot stay buried at the sites. The sites contain abandoned capacitors, contaminated soil, and/or other PCB contaminated material containing concentrations up to several thousand parts per million PCB. It is the consensus of the federal EPA, State of Indiana and the City's public health and hydrogeologic experts that leaving the materials at the site posed an unacceptable long-term public health hazard because the high level of PCB contaminated materials will continue to leak PCBs for thousands of years.

The need for removal was agreed upon by the State, federal EPA and the City. Significantly, Westinghouse strenu-

ously argued that the PCBs should just be left in place. This decision to excavate has been made. Even if local authorities opposed excavation, the federal and state authorities have found excavation to be necessary to protect public health.

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF INDIANA
INDIANAPOLIS DIVISION

UNITED STATES OF AMERICA,

Plaintiff,

and

THE STATE OF INDIANA and
THE ENVIRONMENTAL MANAGEMENT
BOARD OF THE STATE OF INDIANA,

Intervening Plaintiffs,

v.

WESTINGHOUSE ELECTRIC
CORPORATION,

Defendant and Third
Party Plaintiff,

v.

MONSANTO COMPANY,

Third Party Defendant,

and

THE CITY OF BLOOMINGTON,
INDIANA, THE UTILITIES SERVICE
BOARD OF BLOOMINGTON, INDIANA,
and MONROE COUNTY, INDIANA,

Plaintiffs,

v.

WESTINGHOUSE ELECTRIC
CORPORATION and MONSANTO
COMPANY,

Defendants.

Civil Action No. IP 83-9-C

JUDGE WILLIAM E. STECKLER

and

Civil Action No. IP 81-448-C

JUDGE S. HUGH DILLIN

CONSENT DECREE

(e) Consistent with the Covenant Not to Sue section XXIII herein), nothing in this Section shall constitute waiver of any claim the United States, State, City or County have with respect to those portions of the Anderson Road landfill, Bennett's Dump and any other sites and areas which have been specifically identified pursuant to Sections VIII and XI and Exhibits 1, 2, 3 and 7 through 11 inclusive and covered by this Consent Decree. Consistent with the Covenant Not to Sue section XXIII herein), nothing in this Section shall constitute waiver of any claim or defense Westinghouse may have with respect to those portions of the Anderson Road Landfill, Bennett's Dump and any sites and areas which have not been specifically identified pursuant to Sections VIII and XI and Exhibits 2, 3 and 7 through 11 inclusive and covered by this Consent Decree.

(f) Neither this Consent Decree nor any part thereof shall constitute an admission of law or fact or evidence same, nor any violation of any law or regulation. It is intended that this Consent Decree shall neither create nor affect the rights of persons or entities who are not parties to these actions.

(g) Nothing herein shall be construed to release Monsanto Company from any liability for any claim against it the captioned cases or otherwise.

(h) Nothing in this Consent Decree shall prevent the United States, State, or City from exercising any and all authority provided by law, including response authority under

CERCLA, subject always to the Covenant Not to Sue in respect of Westinghouse set forth in Section XXIII hereof.

(1) Westinghouse retains the right to demonstrate to the Court that there exists in whole or in part a more cost-effective method of remedying the PCB contamination of the sites and areas, or any of them, by reason of technological developments affecting the disposal of PCBs, that will: (1) achieve a level of removal and destruction of PCBs and materials contaminated with PCBs equal to or greater than the degree and extent of removal and destruction provided by this Consent Decree including the degree of destruction required of the incinerator and (2) result in removal and destruction of PCBs at least as expeditiously and in a manner as environmentally sound as the method provided in this Consent Decree. In such event, Westinghouse may move the Court, upon prior notice to the parties, for modification of this Consent Decree and shall bear the burden of demonstrating that the proposed method will result in removal and destruction of PCBs in accordance with the standards specified above, that it will not result in any harmful environmental impact, and that the proposed method is in full compliance with all applicable laws and regulations. Any such modification of Westinghouse's obligations under this Consent Decree shall be contingent upon receipt of all required local, state and federal approvals or permits for the proposed remedy. In the event such approvals or permits are not obtained, Westinghouse's original obligations under this Consent Decree shall be reinstated and



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5

230 SOUTH DEARBORN ST.
CHICAGO, ILLINOIS 60604

REPLY TO THE ATTENTION OF:

5RA-14

JUN 19 1990

Honorable Lee Hamilton
House of Representatives
Washington, D.C. 20510

Dear Mr. Hamilton:

Thank you for the opportunity to respond to the questions asked by the Bloomington, Indiana Common Council in their April 9, 1990, letter to you. This letter completes my response to you as stated in my letter of May 31, 1990. For your convenience, each question has been repeated.

Question 1: Does the United States Environmental Protection Agency (U.S. EPA) have available data documenting the present risk to human health from the current status of the PCB contaminated sites in Bloomington and Monroe County?

Answer: In January 1987, a risk assessment was prepared for the Anderson Road and Lemon Lane landfills which calculated the risk to human health prior to the installation of the current synthetic liner overlying the landfill. That assessment was performed to determine the acceptable levels of hazardous constituents in the air during site work activities at the landfills.

Although risk assessments for several sites have been performed, the risks associated with exposure to PCBs and other contaminants have been mitigated by response actions. The previous risk evaluations cannot be used to describe the current health risks associated with PCB exposure resulting from these sites. Recent air monitoring and groundwater studies indicate that risks to human health associated with the PCB sites are very low. The risk assessments prepared by U.S. EPA for Bloomington PCB sites are described below.

A risk assessment was performed for the Fell Iron and Metal Site on January 26, 1989. This assessment was prepared to show the health risks associated with the proposed cleanup of the site. Currently, the excavated PCB soils are enclosed on-site with a polyethylene liner system. A cyclone fence has been erected around the stored soils to restrict access to the storage pile.

PCB-72

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- a) Off-site disposal in an approved hazardous waste or Toxic Substances Control Act (TSCA) approved landfill;
- b) On-site solidification of contaminated soils with capping;
- c) On-site disposal with capping;
- d) Thermal or chemical extraction with off-site disposal of the concentrated PCB material;
- e) Bacterial degradation with on site disposal; and
- f) Treatment by glycolate dechlorination using potassium polyethylene glycol (KPEG).

The technologies identified in items d, e, and f have been chosen but not yet implemented for cleanup actions.

Promising technologies include thermal vaporization and condensation treatment systems, in-situ vitrification, and bioremediation.

Even though a technology for treatment or disposal has been identified for another Superfund site in the country, that does not necessarily qualify it for use generally. U.S. EPA must consider many factors in choosing cleanup technologies such as the willingness of a responsible party to conduct a cleanup, the commercial availability of a technology for a given site, other contaminants, cost, the time necessary to implement a technology, and site specific characteristics.

For the Bloomington sites an important consideration is the existence of the Consent Decree, which not only specifies a proven technology (incineration) but also imposes restrictions on the parties to the Consent Decree, including the U.S. EPA and the City of Bloomington, regarding the possibility of alternative technologies for cleanup. The Consent Decree gives Westinghouse the right of proposing an alternative technology provided that the alternative can achieve a level of removal and destruction of PCB contaminated materials equal to or greater than that specified in the Consent Decree and that the cleanup be at least as expeditious and environmentally sound as that provided in the Consent Decree.

Question 3: Given the hazards of incinerating PCB's, is it possible to vault contaminated soils while alternative technologies are developed and tested?



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
230 SOUTH DEARBORN ST.
CHICAGO, ILLINOIS 60604

REPLY TO THE ATTENTION OF

SRA-14

JUN 11 1990

Honorable Frank McCloskey
House of Representatives
Washington, D.C. 20515

Dear Mr. McCloskey:

Thank you for your May 25, 1990, letter to us regarding your request for a remedial investigation/feasibility study (RI/FS) and the consideration of alternative technologies for the remediation of the PCB contaminated soils and materials in Monroe County, Indiana.

On many recent occasions the United States Environmental Protection Agency (U.S. EPA) has discussed the use of technologies other than incineration for treatment and disposal of PCB contaminated soils and materials in Bloomington. As recently as last year, U.S. EPA conducted an Engineering Evaluation and Cost Analysis for disposal technologies associated with the remediation of the Fell Iron and Metal Site (Fell), located in Bloomington. Although Fell is not a site included under the Consent Decree, U.S. EPA provided the community with a detailed review of a wide range of technologies which were under consideration for the cleanup of the Fell soils. Region V conducted six workshops in Bloomington and provided printed literature to the community addressing proven treatment technologies and the status of developing technologies which have been used or have been considered for use on PCB contaminated materials. We have been responsive in providing material to the news media and in answers to citizen's letters and requests from local elected officials for such information.

We are not reluctant to discuss alternative technologies which could have application to the materials covered under the Consent Decree. However, we must conduct such discussions in the context of the requirements of the Consent Decree. The Consent Decree, which U.S. EPA, the State of Indiana, the City of Bloomington and Monroe County signed, establishes incineration as the remedy.

The Consent Decree provides only Westinghouse the express right to propose an alternative to the incinerator. Such an alternative must result in an equivalent level of removal and destruction, and be as expeditious and environmentally sound as incineration.

PCD-14

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As recently as April 1990, Westinghouse officials stated that they do not intend to propose an alternative to the incinerator and that they will meet all appropriate regulatory requirements during the incinerator's operation.

From our recent review of current and emerging technologies, there is no alternative which provides a higher level of removal and destruction of PCBs than incineration. A demonstration that a given alternative technology could achieve a higher removal and destruction of PCBs would be required in order for the adoption of that alternative to be consistent with the terms of the Consent Decree, with which U.S. EPA is obligated to comply.

Region V will continue to maintain information about developing technologies and to make such information available to the Bloomington community. At this time, however, we see no equivalent means to provide a more effective, safe, and environmentally sound remedy for Bloomington than incineration.

If Region V were able to pursue the Bloomington sites cleanup itself, we would be unlikely to implement a cleanup which is any more exhaustive or effective than that presently contained in the Consent Decree. To the extent that U.S. EPA's unilateral selection and implementation of an alternative remedy is inconsistent with terms of the Consent Decree, there is a substantial likelihood that the Federal District Court would view such action with disfavor. Moreover, such action could jeopardize U.S. EPA's ability to recover monies expended by Superfund for what would be a very costly cleanup.

You correctly state that U.S. EPA believes the studies performed in support of the Consent Decree were functionally equivalent to a RI/FS. At the time of the negotiation of the Consent Decree, U.S. EPA complied with all requirements of the Comprehensive Environmental Response, Compensation, and Liability Act, the National Environmental Policy Act, and the National Contingency Plan in effect at that time. In addition, public involvement prior to the entry of the Consent Decree was substantially more than required by law. (See, *Schalk v. Reilly*, Docket Nos. 89-1141 and 89-1276, consolidated, slip op. (7th cir., April 24, 1990)). We remain firmly convinced that the process we followed earlier was appropriate and that the result of the earlier studies remain valid today. Incineration is the best means currently available to destroy the waste.

In addition to the resource burden, the value of performing such a RI/FS is questionable in light of our obligations under the Consent Decree, and the remote possibility of implementing a more comprehensive solution than is already provided by the Consent Decree.



Bioaccumulation

PROBLEM
PRESSING
APPROACH
CONSIDERABLE



Alternative Technologies

Westinghouse does keep
abreast of emerging PCB
destruction technologies. In
fact, in negotiating the consent
decree, Westinghouse asked
for and was granted the right
to propose an alternative PCB
destruction technology, pro-
vided it can demonstrate that
the technology considered
would achieve a level of PCB
destruction equal to or greater
than provided by incineration.
Any technology considered
for the Bloomington Project
must meet *at a minimum*
the following criteria:
• It must meet stringent EPA
and Indiana environmental
regulations;
• It must be capable of treating
the 650,000 cubic yards of
contaminated material within
a reasonable period of time;
• It must reduce PCB conam-
ination to extremely low
levels;
• It must be capable of han-
dling the type of material
typical of the sites involved
—soil containing widely
heterogeneous materials and
MSW;
• And it must be permitted by
EPA and the State of Indiana.
The incinerator proposed
for the Bloomington cleanup
meets all of these five exacting
requirements. Moreover, the
EPA continues to view incin-
eration as the best currently
available technology to decon-
taminate PCB-contaminated
soils. In 1989, EPA reviewed
current and emerging PCB
destruction technologies for
applicability in Bloomington.
It concluded that incineration
remains the best technology
for PCB destruction.
Over the years, local activ-
ists and citizens have called
for alternative technological
solutions to the PCB contam-
nation problem. Everyone, of
course, would prefer a simple,
pollution-free answer. But no
such "magic bullet" exists.
Some have advocated
simply "vaulting" the material
in above-ground bunkers to
contain the material until
some new, simple technologi-
cal advance comes along. But
vaulting is not such a simple
solution after all.
Building a vault large
enough to hold 650,000 cubic
yards of contaminated mate-
rial would require about 87
buildings the size of Westing-
house interim storage facility
built at the city's Winston-
Thomas sewage treatment
property to meet interim
remedial measures specified
in the consent decree.
"Transportation of materials
to the vaults would alone
cause problems. For example,
if the material were to be
bunkered in a year, as some
have advocated, 160 ten-ton
trucks per day would move
take the material from the
contaminated sites to the
vaults.
Significantly, vaulting of the
material would not comply
with state or federal law and
regulation.

That is a good question. That whole site is scheduled to be cleaned next year, we are going to start this year. I would like to see us get started with as much as possible this year, so that we do not get hung up next year.

MB
Is there already a predetermined remedy? Since we have a plan to remediate the site, wouldn't it have the remediation as part of it?

DH
Part of the proposal they made up to clean up the sludge drying beds and digesters was to submit a schedule of activities, including some of the administrative details as well, choosing a vendor, sending out bid packages. Westinghouse will prepare the Conceptual Plan, and their subcontractor would the final work plan. I would expect it was March or April.

MB
Is there going to be a discussion about the alternatives for remediation? Even if they are limited?

MR
Let's get this clear. There are two alternatives we have been told about, solidification and transport to a TSCA Landfill. Last we heard solidification is still on the table, what is the case now?

JL
It is no longer on the table.

MB
Have you considered Base Catalyzed Decomposition? Or have you already decided on a remedy.

DH
Dig and haul is what I would look at happening

JL
I think the expense of solidification, and especially the continued liability, make it not a good option for Westinghouse.

DH
We are operating under the Consent Decree, and it could require that we amend the Consent Decree.

MR
How is this?

In the Consent Decree using an alternative remedy requires consensus on the part of the parties. It also says that it must have as high a percentage of destruction and be as timely as the previous remedy.

There are a host of activities that will need to be done. There will be some legal work that will have to be done, and exactly how that is going to happen, I don't know.

Diane Henshel [DH2]
Of all the Consent Decrees from this time period 84, 85, is there any other site where the PRP is the only one that can suggest an alternate remedy?

Date: Tue, 29 Apr 97 17:20:04 CST
From: cic-clerk@mcni.net
To: larime@bloomington.in.us
Subject: Final Draft CIC Minutes, March 6, 1997

Minutes of CIC Meeting

March 6, 1997
Showers Complex

Next Meeting
April 29, 1997 7:00pm
City Council Chambers

Present:

Dan Hopkins	EPA
Dave Novak	EPA
Dan Sparks	USFW
Resa Ramsey	IDEM
John Langley	CBU
Evelyn Brophy	CBU
Sona Chambers	Earth Tech
Iris Kiesling	Monroe County
Evelyn Brophy	CBU
Diane Henshel	IU

David Porter

Corrections of last months minutes

Dan Hopkins [DH]
I didn't say we were not going to use Earth Tech. Their contract was terminated, they could not be the prime contractor. It's possible they could be used as a subcontractor.

OMBUDSMAN

Mike Baker:

Well my impression that was that he was on a fact finding mission. He had a pretty good understanding of the history from pre 1985 through the mid 1980's. I asked him "What are you here for specifically", and he had a narrow focus, did the EPA not do things that are required by the law, or did they mishandle something, maybe they handled it legally, but Maybe they didn't really handle it well with the community. And he seemed to have facts and figures, he seemed to know something about it. I got the impression he was going to take the information he had and review it, I know he took a tour of the sites with Jim Patrick and Dan Hopkins.

DH
It was just Jim Patrick

MB
He has asked people with specific problems to put down in writing a formal request to have a review that is part of a procedure. He seemed to indicate that there might be some cause for complaint.

Mitch Rice [MR]
The phrase I heard used was "open a case". If a citizen wants to

Cartmell

Bloomington, IN 47401

Assistant Attorney General
for the Environment and Natural Resources Division
Department of Justice
Washington D.C. 20503

Re: United states v. Westinghouse Electric Corporation
DOJ Ref. #90-7-212A

Dear Sirs:

Enclosed are copies of previously made comments, and some of the documentation shown and referred to at the public meeting in support of them, required to be provided to the Judge for review in the above matter. The failure to provide the proposed amendment and administrative record in the time or manner required, until after the official public comment period had expired, and only four days notice for a public hearing, and the failure to provide the actual plan, as opposed to the incomplete conceptual plan, to the public at all, resulted in denying a meaningful opportunity for public comment, and I request that the public be given such an opportunity.

As all the comments and material intended to be presented were not allowed to be presented in the forum and process adopted, you have some work to do in order to complete the process required and review and provide the comments, views, and allegations relating to the proposed judgment to the court as required. The time periods, forum, and material provided for public comment were insufficient to receive and review comments and relevant materials. If you have an interest in determining whether the proposed amendment is or is not inappropriate, improper, or inadequate, then you will have to hear and investigate this matter more before coming to a decision and provide the comments, views and allegations to the Judge as required. There is considerable documentation in support of the statements made concerning the proposed conceptual amendment to the consent decree available for your examination.

One does not put perpetrators in charge of assessing their crimes and restitution.

You would not put someone who committed an act against you, and denies it, in charge of investigating their acts and assessing their restitution.

You would not leave your car with the persons who injured you and wrecked your car in an accident that was their fault; to fix it for you, when they have claimed it is not damaged and you were not hurt.

You would not continue to leave your car with the persons who wrecked it, or were supposed to fix it, for 22 years, (1975 to the present), after they had not yet fixed it.

You would not put the persons who wrecked your car or were supposed to fix

it, in charge of fixing it, when they have, as repeatedly demonstrated, an interest in revealing as little of the damage to it as they can so that it's cheaper to fix, and in the mean time left dangerous conditions unaddressed for 22 years.

You would not put the persons in charge of fixing anything who have a conflict of interest to do so.

The process to deal with the Bloomington sites, does not work, has not worked, and will not work, in protecting the health of the public and the environment.

In 22 years the parties haven't even properly fenced and posted this site yet, much less cleaned it up. In 22 years the parties haven't even taken the first step in dealing with this problem, by assessing the nature and extent of the problem, the contamination at this site, and what could be done about it, as required by law and common sense, and do an RI/FS. (Re: community complaints and EPA Ombudsman's reports verifying them. Attached.)

How many years must pass before it's realized that these people are not, have not, and will not properly deal with this problem.

Westinghouse knew about this problem at least by 1971 when they knew of the locations of most of the dumps, were assessing the spread of material from them, even testing fish in affected streams, and didn't tell any one; while at the same time publicly lying and proclaiming that the material doesn't escape from landfills, so that they could continue to dump at the Monroe County Landfill, years after the State had already told them not to dump the material in a landfill here. (Documents available for examination.)

Beginning in 1975, after more than 9 years and millions of dollars of secret negotiation, (which continues to this day) in 1985 the EPA announced what was then, and may still be, the largest settlement in the history of the EPA, and they have never yet taken the first step in addressing that problem by assessing the nature and extent of the problem, the contamination at this site, and what could be done about it, as required by law and common sense, and do an RI/FS. We are the only sites in the country from before and since that period of time, that have not received an RI/FS or EIS. (Other than 2 sites which it didn't apply to.)

Until an RI/FS or any equivalent has been performed and the public process provided as required it is inappropriate, improper, inadequate and unacceptable to consider or adopt any amendment to the consent decree.

Due to the long and continuing history of untimely, improper and inadequate action, and misconduct, negligence, incompetence, fraud and malfeasance by Westinghouse and Region 5 EPA, it is inappropriate and unacceptable to consider or adopt any amendment to the consent decree or allow Westinghouse, and Region 5 EPA, or any of the other parties, to develop, plan, or perform any cleanup activity, site assessment or investigation. (Documentation available for examination.)

Sincerely,



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:

SR-6J

February 5, 1998

VIA TELECOPIER
& U.S. MAIL

Magistrate Judge Kennard P. Foster
United States Court House
Room 277
46 East Ohio Street
Indianapolis, IN 46204

FAX: 317.229.3629

RE: United States, et al. v. CBS Corporation, Civil Action Nos.
IP-83-9-C and IP-81-448-C, consolidated (S.D. Ind.)

Dear Judge Foster:

The United States Environmental Protection Agency (U.S. EPA) hereby submits its proposed sampling and analysis program for Neal's Landfill. In addition, the governmental parties have outlined their geotechnical requirements for placement of a Toxic Substances Control Act (TSCA)/Resource Conservation Recovery Act (RCRA) landfill at Neal's Landfill.

Neal's Landfill

The governmental parties and CBS Corporation (CBS) disagree as to the scope of the sampling and analysis for Neal's Landfill. CBS has proposed to do 13 borings in the southeast corner of Neal's Landfill for PCB analysis. The U.S. EPA and the other governmental parties are of the opinion that the 13 borings are inadequate to characterize "hot spots" at Neal's Landfill. The U.S. EPA and the other governmental parties are proposing 78 additional borings, for a total of 91 borings within Neal's Landfill. All borings would be analyzed for PCBs and a small portion will include volatile organic compounds, based upon field screening data. The proposed test borings are located on the enclosed diagram. The borings CBS has agreed to perform are shown in blue and are designated CBS-1 to CBS-13. The additional borings U.S. EPA requires are referenced in red and are designated NL-14 to NL-91.

14. Landfilling does not reduce the volume, toxicity or mobility of PCBs and should not be considered as a remedy. EPA's own published opinion in the Federal Register that "all landfills leak" eventually supports the necessity that landfills not be used for the disposal of persistent organic pollutants such as PCBs.
15. The alternatives reviewed are deficient in that they don't include vaulting as a remedy.
16. The alternatives reviewed are deficient in that they don't include destruction treatment options (such as EcoLogic).
17. In this review of alternatives, cost was used as the basis for determining the preferred alternative. In the earlier EE/CA, cost again was the factor which excluded vaulting and destruction treatment options from consideration. In fact, of all criteria used to judge alternative remedies, cost is THE ONLY criterion which has been used to screen out remedies from further scrutiny under the other criteria. Using cost as the primary basis of remedy determination has worked to the detriment of public health and safety. And why should it be given primary importance when, as Judge Dillin stated in court, "Westinghouse has deep pockets."
18. EPA's preferred alternative 4 is not really EPA's proposal. It is CBS's "piggybacking" proposal for Neal's Landfill, thinly disguised. May we assume then, since it doesn't now include piggybacking excavated material from Lemon Lane Dump that that will be later proposed to be piggybacked at Neal's Landfill, or that Lemon Lane Dump will be proposed to not be excavated at all or only partially? Any alteration of the cleanup remedy to Neal's Landfill is inappropriate without making public disclosure and removing

5. Preferred Alternative 4 would of necessity leave substantial amounts of PCB contamination of unknown and no doubt same high levels remaining at Neal's Landfill posing an imminent and substantial endangerment.
6. Groundwater concerns have not been addressed. Studies have been insufficient to determine the threats from this location. It can be assumed that contaminants are or potentially will be releasing in all directions. Residential wells surrounding the site show PCB contamination with no evidence supporting a determination of where exactly from within the site the contamination is coming from. Additionally, areas deemed "dry" by the EPA, in wet/dry determination for the purpose of removing >50 ppm contamination in wet areas, have recorded groundwater at 7' below surface level.
7. The dump is sited over karst, fractured limestone geology. It is a well-known fact that karst geology changes over time. Therefore, assumptions and determinations made about where water releases from the contaminated dump are or might be occurring will be invalid over time. The certainty of potential karst shifting necessitates that all contaminated material be removed rather than only that which is now dry or thought to be noncontributing to releases.
8. Preferred Alternative 4 is essentially the same as the "piggybacking" option previously proposed by CBS, whereby contaminated material would be consolidated in the same "island" in the center of the dump but without material from other sites (as yet) proposed to be dumped on top. This option was successfully defended against by the consent decree parties (other than CBS), specifically in the documents (1) February 5, 1998, letter to Magistrate Judge Kennard P. Foster from Thomas Alcamo, U.S. EPA Chemical Engineer; (2) February 5, 1998, "Memorandum of Points and Authorities of the United States and State of Indiana Regarding Requirements for Offsite Disposal" by Steven D. Ellis, Trial Attorney, U.S. Dept. of Justice; and (3) February 12, 1998, letter to Magistrate Judge

Kennard P. Foster from Thomas Alcamo, U.S. EPA Chemical Engineer. I here include and incorporate into my public comments the three aforementioned documents.

9. The site of this proposal, Neal's Landfill, is not now and never was a landfill. It is a dump on private land. It could not ever be or have been permitted as a landfill. All guidances and policies referencing cleanups for landfills or municipal landfills are inappropriate for determining the extent of cleanup on this privately operated private property dump.
10. Dioxin as a contaminant of concern was not included in this remedy consideration. Daily burning as evidenced by statements made by Charlie Anderson, manager at the dump, and multiple reports of residents living near the dump to the Indiana State Board of Health, confirm the necessity for dioxin sampling both in the dump and surrounding areas before the extent of excavation can be safely determined.
11. Other contaminants of concern were not included in this remedy consideration. Deposition of Charlie Anderson states that the dump was composed of 60 to 70% industrial wastes. Therefore, it is necessary to characterize the dump for other chemical contaminants before the extent of excavation can be safely determined.
12. This remedy consideration is deficient in that NO complete removal alternative (1 ppm or less residual contamination) was considered.
13. Neal's Landfill is located amidst a residential area. It is surrounded by residences and farmlands only. The impacts of its releases bear most heavily on residential areas. The site should be classified residential, and not industrial, in determining its cleanup level.

14. Landfilling does not reduce the volume, toxicity or mobility of PCBs and should not be considered as a remedy. EPA's own published opinion in the Federal Register that "all landfills leak" eventually supports the necessity that landfills not be used for the disposal of persistent organic pollutants such as PCBs.
15. The alternatives reviewed are deficient in that they don't include vaulting as a remedy.
16. The alternatives reviewed are deficient in that they don't include destruction treatment options (such as EcoLogic).
17. In this review of alternatives, cost was used as the basis for determining the preferred alternative. In the earlier EE/CA, cost again was the factor which excluded vaulting and destruction treatment options from consideration. In fact, of all criteria used to judge alternative remedies, cost is THE ONLY criterion which has been used to screen out remedies from further scrutiny under the other criteria. Using cost as the primary basis of remedy determination has worked to the detriment of public health and safety. And why should it be given primary importance when, as Judge Dillin stated in court, "Westinghouse has deep pockets."
18. EPA's preferred alternative 4 is not really EPA's proposal. It is CBS's "piggybacking" proposal for Neal's Landfill, thinly disguised. May we assume then, since it doesn't now include piggybacking excavated material from Lemon Lane Dump that that will be later proposed to be piggybacked at Neal's Landfill, or that Lemon Lane Dump will be proposed to not be excavated at all or only partially? Any alteration of the cleanup remedy to Neal's Landfill is inappropriate without making public disclosure of the plans for excavation and removing contamination at Lemon Lane Dump.

all? Any alteration of the cleanup remedy to Neal's Landfill is inappropriate without making public disclosure of the plans for excavating and removing contamination at Lemon Lane Dump.

19. I include and hereby incorporate into my public comments statements by the Monroe County Health Department (Steve Creech, 9-11-98; Dennis Williamson, Undated; and George Hegeman, 3-3-98) which state the unacceptability of partial cleanups (such as that now proposed in Alternative 4) for ALL consent decree sites.
20. The inclusion of Alternatives 1 through 3 are inappropriate in this review because they have previously been rejected by the parties and by the public. Their inclusion serves only one purpose by design: to make Alternative 4 look good by comparison.
21. Preferred Alternative 4 is inappropriate because it ensures that the site will have to be revisited at a later date to remove the remaining 280,000 or more of contaminated material when their exposure threat and actuality are acknowledged.
22. THE COMMUNITY DOES NOT SUPPORT PARTIAL REMOVALS AT THIS OR ANY SITE!
23. The U.S. EPA has conspired with the other governmental parties in launching a disinformation campaign to the media and the public of Bloomington, Indiana, to disguise the actual risks from the sites and to disguise the extent to which the cleanup standards are being eroded in negotiations. This review of alternatives is a part of that disinformation campaign.

14. Landfilling does not reduce the volume, toxicity or mobility of PCBs and should not be considered as a remedy. EPA's own published opinion in the Federal Register that "all landfills leak" eventually supports the necessity that landfills not be used for the disposal of persistent organic pollutants such as PCBs.
15. The alternatives reviewed are deficient in that they don't include vaulting as a remedy.
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73
2/3/99

From: Larime Wilson <larime@bloomington.in.us>
To: Derrick Kimbrough <Kimbrough.Derrick@epamail.epa.g...>
Date: 2/3/99 1:48pm
Subject: Public comment on Neal's Landfill Proposal

Please attach the following draft comments by Gareth Davies in their entirety and incorporate therein to my written public comments on the Neal's Landfill Proposal which were postmarked today from Bloomington. Mr. Davies further documents the points that the "landfill" was not characterized sufficiently to determine hotspots and that the expectation of karst changes over time deems anything but complete removal of contamination to be unsafe. Thank you.

----- Forwarded message -----

Date: Wed, 03 Feb 1999 12:18:16 -0600
From: Mike Baker <mrb@mcni.net>
Subject: Draft Comments from G Davies on Neal's

COMMENTS RELATING TO THE REPORT: FIELD DATA EVALUATION REPORT FOR REMEDIAL INVESTIGATION/FEASIBILITY STUDY SAMPLING AND ANALYSIS ACTIVITIES, NEAL'S LANDFILL SITE, MONROE COUNTY, INDIANA, VOLUME I,

by

Gareth J. Davies, M.Sc., P.G., Principal Scientist, Cambrian Ground Water Co., 109 Dixie Lane, Oak Ridge, TN 37830

Please Note:

All readers of this document should become familiar with the literature cited, the references cited in that literature, and other relevant literature. Only then can the necessity and validity of the comments made in this document be appreciated. Refutation of comments made in this review should also be backed by their own references or otherwise cited literature.

Introduction

The Neal's Landfill disposal site and its vicinity have been evaluated by CBS Corporation (CBS Corp., U.S. EPA and its consultants with regards to so-called Source-Control Alternatives, as described in a report: Field Data Evaluation Report for Remedial Investigation/Feasibility Study Sampling and Analysis Activities, Neal's Landfill Site, Monroe County, Indiana, Volume I, (Tetra Tech EM Inc., 1998) (in addition to associated documents and appendices).

Currently a Source-Control Remedy that is preferred by the parties involves removal and consolidation of hot spots of PCB contamination and installation of a RCRA cap on the landfill. Another alternative was to completely remove the contents of the landfill, but was not preferred as the calculated costs were considered excessive when compared to the hot-spot alternative.

Discussion

PCB sources in the landfill have been characterized as "hot" (> 500 ppm, dry or > 50 ppm, wet) by taking discrete samples, see Figures 1, 2, and 3 of Tetra Tech EM Inc. report (1998). The location of samples is shown in relation to a grid that was surveyed in place.

The major factor associated with this alternative, is how representative are the samples that are assumed to characterize the hot spots. If some of the remaining landfill waste is actually more contaminated than it appears to be (based upon assumptions made from the limited sampling and interpretation of those results), the landfill and its contents might be as big a problem in the

future as if the hot spots had not been consolidated and removed and the landfill left in its original condition.

This and other patterns of sampling can be evaluated by using methods of evaluation of systematic patterns of search related to sampling theory and statistics (see Davis, 1973, p 287-314; also Cheeney, 1983, p. 131- 133). The average of how many samples were collected in this case in each square subarea or quadrat can be made by dividing the number of sampling locations by the number of quadrats. Using this relationship it appears that an average of less than one sample was collected in each square. It is understood that more than one sample was collected vertically in the borings, but each square is drawn to show the sampling of an area, so there is still only slightly less than one sample per subarea. Since an average of slightly less than one sample has been collected per quadrat and the probability of observing an event in one observation is practically zero, (the opposite notion of the law of large numbers, Havilcek and Crain, 1988, p. 122-123) the argument that waste at the site has been properly evaluated is totally untenable.

Despite this serious problem in section 6.1 of the Tetra Tech EM Inc., report it is stated that "data suggest that the horizontal and vertical extent of contamination has been defined properly in the majority of the borings drilled," -- with absolutely no numbers or statistics whatsoever to support this. Arguably this is only correct for "in the borings" sensu stricto. The size of the diameter of the borings in relation to the size of the grid squares should be considered in that there is only an average of one boring per quadrat. The question is, what might have been missed? The truth is that to have a 90% probability of finding a circular 1-meter object buried in the subsurface by drilling, one would need to drill more than 2,471 3-centimeter drill holes per hectare, or 1,000 3-centimeter holes per acre (Benson and La Fountain, 1984). This translates to approximately 230 3-centimeter holes per quadrat to have the same probability.

Figure 1 is a plot of the inverse normal distribution function of all samples collected for PCB analysis for hot-spot characterization at Neal's Landfill. Random samples collected in natural system are typically log-normally distributed. The plot shows that the data generally fit a

linear log-normal distribution function for lower-concentration samples, as would be expected, but the data do not fit as well at high concentrations.

This lack of fit translates to more uncertainty in the representativeness of those high-concentration samples. These data form the basis of the hot spot characterization, and should be as representative as possible. The implication of the higher-concentration samples not being representative of the actual concentrations of the waste introduces the possibility of unintentional but real sampling bias, a common problem in the statistics of sampling.

Unfortunately it is impossible to evaluate whether there is potentially no statistical difference in the number of points per quadrat by Chi Squared Statistics because an average of less than 5 samples were collected from each quadrat, therefore the data collection can only be considered inadequate. However, it can be inferred that the landfill area contained enough PCB waste that

was "hot" (>500 or > 50 ppm) that even using this unrepresentative and statistically untenable method there was some success.

When only a limited number of samples are collected for evaluation of any site caution should be advised. Huff (1991, p. 20) cites an example of the psychiatrist who proclaims "all people are neurotic." The bias in his interpretation can only be recognized when it is realized that "normal" people would never visit him.

The awareness required during evaluation of any scientific data such as these landfill data is stated eloquently again by (Huff, 1991, p. 20 -21):

"It is worth keeping in mind also that the dependability of a sample can be destroyed just as easily by invisible sources of bias as be these visible ones. That is, even if you can't find a source of demonstrable bias, allow yourself some degree of skepticism as long as there is a possibility of bias somewhere. There always is." [the bias referred to is statistical sampling bias and does not imply chicanery]

The lack of good fit of the high-concentration data in the inverse normal distribution plot should not be ignored, as it is the only statistical evaluation of those data. The statement made by Tetra Tech quoted above on the extent of contamination being "defined properly" must also be questioned in the context of the words of Lord Kelvin (1883) who said (paraphrasing)"if you cannot express it (the problem) in numbers, your knowledge is of a meager and unsatisfactory kind....," - Tetra Tech EM Inc., do not show any statistical confidence that the waste has been defined properly. In fact when evaluated in the way it has been in this document the sampling method used appears to not stand up to statistical scrutiny and raises very serious questions about the crux of the matter - the characterization of the hot spots.

Ground-Water Issues

Based upon topography and surface hydrology in the vicinity of the Neal's Landfill ground water could be predicted, in the vicinity of the site, to

flow or discharge in either a northwesterly or westerly/ southwesterly direction. Ground-water tracing done at Neal's Landfill is reported to flow in generally the same directions as predicted by topography and hydrology (M. McCann, CBS Corp., personal communication).

If the true hot spots have been inadequately sampled and significant quantities of PCBs are inadvertently left in place then the ground water resources northwest and southwest of the landfill area will forever be potentially in jeopardy, however much treatment is attempted. Even though a cap would be in place ground water under the landfill would be subject to variations in hydraulic head caused by flooding and draining of conduits (cave passages), and might still reintroduce contaminants to the ground-water and eventually the surface water system in the future, and possibly grossly unpredictable concentrations. Unless a massive drilling program

and properly-designed and implemented sampling method used, it would also be practicably impossible to determine how much waste in the landfill area remained that might come into contact with fluctuating ground water beneath the landfill. Many carbonate aquifers are covered by a cap rock that is essentially impermeable compared to the carbonates, but still discharge large amounts of water through conduits beneath that cap rock, the implications are the same here.

As previously stated efforts at maintaining treatment of water discharging from the site might be seriously compromised, where predicted PCB concentrations that had been assumed based on the Source-Control data might be grossly inaccurate because they were assumed to be some of the highest assumed concentrations left in the landfill, where in fact they might not be. PCBs at the site have been characterized in ground water by sampling wells, springs, seeps and surface streams. Unfortunately samples from wells cannot properly characterize a site like this because the well as a sampling device assumes the hydrology of the site is a porous medium and Darcian flow prevails. However, karst and fractured-rock aquifers not only need to have ground-water flow described by tracing, but the sampling for contaminants has to be matched to the variability of the flow or discharge (ASTM, 1996). This would mean that unless the samples were collected at the same times the maximum flow and possibly PCB concentration were being discharged the site would not be properly sampled. Failure to sample often enough and observe the true amplitude of a signal is called aliasing (Davis, 1973, p. 258) and is a common problem in sampling protocol (ASTM, 1996), particularly in karst and carbonate aquifers.

The discharge points that were identified from the results of the ground-water tracing experiments should be further evaluated so that the periods when there are coincident maximum PCB concentrations have to be determined. This has been done for the discharge from Lemon Lane Landfill and provides an excellent basis for similar evaluation at Neal's Landfill.

Other considerations that are not mentioned specifically in the Tetra Tech EM Inc., report are that there could be unannounced collapse within the future footprint caused by undermining of soil, rock, or waste by underground streams, that would in turn cause rapid and drastic changes in the concentrations of landfill constituents being discharged.

Ground-water monitoring plans would be seriously compromised in that discharge might begin at new locations not being treated, this is not improbable as it is common knowledge that such collapse events happen often in karst regions. The combined effect of these repercussions might mean seriously compromised human health in the vicinity of the site and is clearly not worth the risk.

A reason for not adopting Alternative 5 - complete removal of the waste was cost. However, if Alternative 4 is adopted in the final decision but the clear inadequacies shown to be present here not properly addressed then all the money spent on it would be for nought. Then the "more expensive" alternative would become cheap at the price, because it would have not been as prone to failure and compromise and at least the waste would have been removed from the site, thus

ensuring the one thing that cannot (or should never) be compromised, future protection of human health, which should be ultimate goal of such an endeavor regardless of cost.

References

American Society of Testing and Materials, 1996, Standard guide for design of ground-water monitoring systems in karst and fractured-rock aquifers, ASTM Annual Book of Standards (1998) D5717-95, p 439 - 458.

Benson, R. C. and La Fountain, L.J., 1984, Evaluation of subsidence or collapse potential due to subsurface cavities, In, Sinkholes: their geology, engineering, and environmental impact, B.F. Beck, (ed.) Balkema, Boston, p. 201-215

Cheaney, R.F., 1983, Statistical Methods in Geology, George Allen & Unwin, London, 169 p.

Davis, J. C., 1973, Statistics and Data Analysis in Geology, John Wiley & Sons, New York, 646 p.

Havilcek L.L., and Crain, R.D., 1988, Practical Statistics for the Physical Sciences, ACS Professional Reference Book, American Chemical Society, Washington D.C., 489 p.

Huff, D., 1991, How to Lie with Statistics, Penguin, New York, 124 p.

Lord Kelvin (1883) quotation

Monmonier, M., 1991, How to Lie with Maps, Chicago Press, 176 p.

McCann, M. (Westinghouse/CBS Corp.) - personal communication.

Tetra Tech EM Inc., 1998, Field Data Evaluation Report for Remedial Investigation/Feasibility Study Sampling and Analysis Activities, Neal's Landfill Site, Monroe County, Indiana, Volume I, 25 p., + Appendices.

Postmarked
2/3/99

PK

February 3, 1999
P.O. Box 2301
Bloomington, IN 47402

Derrick Kimbrough
Community Involvement Coordinator
Office of Public Affairs
U.S. EPA (P-19J)
77 West Jackson Boulevard
Chicago, IL 60604-3590

RE: Public Comments on Neal's Landfill changes .
To proposed PB cleanup remedy.

Dear Mr. Kimbrough:

Following are my written public comments on the U.S. EPA
Proposed Changes to the Source Control Remedy for Neal's
Landfill. Bloomington, Indiana, December 1998:

1. The preferred Alternative 4 violates the Consent Decree negotiated by the parties and lodged with the court which states (p. 90) that the extent of removal of contamination will not be reduced, regardless of whether incineration or a later-chosen treatment option is used.
2. The consent decree should be included as an ARAR in the determination of remedial action at this site.
3. The preferred Alternative 4 violates assurances by elected officials in every level of government represented in the Consent Decree (city, county, state and U.S) and the U.S. EPA to the citizens of Bloomington that any later-adopted treatment remedy (other than incineration) would not reduce the level of contamination removal from the site.
4. The sampling that was done at the site in 100 foot grids is insufficient and inadequate (ludicrous, actually) to determine the extent of contamination, or to determine "hotspots" as assumed in preferred Alternative 4.

unstable nature of the geology at the site, the governmental parties have concluded that CBS's approach is not sound. The governmental parties will complete the sampling and analysis by the June 1, 1998, deadline, in the event that CBS declines to do so.

The U.S. EPA and the other governmental parties request that CBS fund the entire sampling and analysis program within Neal's Landfill, based upon the requirements of CERCLA. Due to the critical nature of the information, U.S. EPA will fund the 75 borings if CBS continues to refuse to complete the sampling and analysis program. U.S. EPA will then have a claim that CBS, as a liable party, is jointly and severally liable for all such costs and EPA reserves all such rights to pursue CBS for such claim.

Storm Water Sampling at Neal's Landfill

Related to sampling within Neal's Landfill, U.S. EPA reports to the Court that CBS has agreed to perform storm water sampling at Neal's Landfill. The purpose of the storm water sampling is to determine the threat of PCB migration from Neal's Landfill to locations outside of Neal's during storm events. EPA is concerned that a hydrogeologic link between storm events and volumes and concentrations of escaping PCBs may exist at Neal's Landfill, as has already been established at Lemon Lane Landfill.

Sediment, Surface Water, Fish and Crayfish Sampling

CBS has agreed to complete the sediment, surface water and fish/crayfish sampling for Stout's Creek, Conard's Branch and Richland Creek that was described in the U.S. EPA conceptual sampling plans that were submitted to you on January 13, 1998. Discussing the fish and crayfish sampling with U.S. EPA, ecological experts and U.S. Fish and Wildlife Service, sampling should not take place until mid-April or early May due to the inactivity of those species prior to mid-April. Sediment sampling will not be affected by this delay.

Geotechnical Sampling Requirements for Neal's Landfill

During our last meeting with the Consent Decree parties on January 13, 1998, you requested a sampling protocol to determine karst features under Neal's Landfill. From our recent discussions with CBS, we have learned that CBS proposes to conduct a geophysical resistivity survey to identify the presence of larger karst features underlying the existing waste material. U.S. EPA and the other governmental parties have concluded that a survey through a water-saturated material containing a random distribution

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of conductive metallic debris, as proposed by CBS, will result in an inconclusive definition of karst features. For example, EPA is concerned that the existence within Neal's Landfill of large metal objects and other types of debris may interfere with and skew the test results, making interpretation of the data at best unreliable and at worst wrong.

As discussed in our January 22, 1998, meeting, to ensure that any disposal system intended to contain additional PCB-contaminated waste at Neal's Landfill (and already located on karst geology), as proposed by CBS, will not fail, the following ground control procedures are needed to 1) verify competence and 2) stabilize the bedrock surface immediately beneath the proposed fill area. Assuming a 10-acre area on-site, the following is necessary:

- Removal of unconsolidated soils and waste down to the bedrock surface;
- Visual inspection for purposes of determining the integrity of the cleaned bedrock surface for sinkholes, open and clay filled crevices and collapse sinkholes. Karst features found must be stabilized by sound engineering practice;
- Conduct test borings for stability by pressure testing and subsequent grouting with a 50 feet by 50 feet grid pattern. Between 180 and 200 boreholes are necessary to complete the grid for a 10-acre site. Each borehole will be drilled to a depth of approximately 20 feet and pressure tested with water using a conventional packer assembly. Each borehole will be sealed by grouting. Those borings that have a large take of water will be the center point of additional borings on eight foot centers for grouting purposes.

By using the above protocol, the possibility exists that a engineered landfill could be placed at Neal's Landfill. Without the assurance of a competent bedrock surface to place large quantities of PCB contaminated waste, the U.S. EPA will not support the placement of large quantities of waste on the Neal's Landfill surface. Moreover, such placement would be contrary to Federal and State law and will inappropriately threaten public health or the environment.

Excavation Volumes at Neal's Dump, Bennett's Dump and Lemon Lane Landfill

During our January 22, 1998 meeting, the issue of possible excavation volumes was discussed briefly. U.S. EPA would like to discuss this issue further on February 16, 1998, and believes

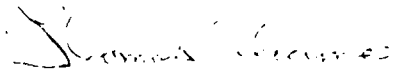
that the following, at a minimum, is necessary for a protective cleanup for three of the sites:

- Neal's Dump - Excavate the entire site to 10 parts per million for PCBs with an 18 inch soil cover. The estimated volume is 14,000 cubic yards.
- Bennett's Dump - Excavate the entire site to 25 parts per million for PCBs with an 18 inch soil cover. The estimated volume is 55,000 cubic yards.
- Lemon Lane Landfill - Excavate to 50 parts per million for PCBs without further sampling within the landfill. Based upon sampling to date, approximately 70,000 cubic yards would be removed and a RCRA cap would be placed over the remaining material. Full scale water treatment at Illinois Central Spring sufficient to treat up to ten-year storm events, would also be required.

U.S. EPA has asked the other governmental parties and CBS to put forth their positions as soon as possible so that these critical discussions can begin immediately.

U.S. EPA appreciates the opportunity to submit its views on these important matters. U.S. EPA looks forward to meeting with you on February 18, 1998.

Sincerely,



Thomas Alcama
Chemical Engineer

Enclosures transmitted under separate cover dated February 4, 1998

cc: Geoff Grodner	FAX 812.333.0083
Steven Ellis	FAX 202.616.6584
Myra Spicker	FAX 317.232.7979
Catherine Gibbs	FAX 317.233.5517
Thomas Cobb	FAX 317.233.5517
David Berz	FAX 202.682.7212
Bill Steger	FAX 812.349.2982
Steve Wardzinski	FAX 412.642.4691
Dorothy Alke	FAX 412.642.3008

T. 3
10/17/91

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT PROGRAM

PUBLIC NOTICE of PUBLIC HEARING

Indiana Department of Environmental Management
105 South Meridian Street
Indianapolis, Indiana 46225
317/232-8760

Permit No.: IN 0045918

Name and Address of Applicant:

Westinghouse Electric Corporation
Environmental Technology Division
Box 286
Madison, PA 15663-0268

Location Where Discharge Is To Occur:

Westinghouse Electric Corporation
Neals Landfill
P.O. Box 341, Section 33, T9N, R2W
State Highway 48 West
Bloomington, IN 47402

I. Hearing Information

A Public Hearing will be held on the 25th day of November, at 7:00 p.m., EST. The location of the hearing is the Whittenberger Auditorium (IU campus), 1st Floor, 900 East 7th Street, Bloomington, Indiana 47405.

The hearing is being held to comply with Special Judge Norman D. Curry's order and to allow public participation in the determination of the issuance of a NPDES permit to Westinghouse Electric Corporation for the Neal's Landfill facility in Monroe County, Indiana. Special Judge Curry also ordered that the Department state that the NPDES permit is not bound by the Consent Decree. At said hearing, all interested parties may submit written or oral statements to the Hearing Officer for consideration.

II. Permit Information

The above-mentioned applicant has been operating under NPDES Permit No. IN 0045918 which was issued June 7, 1988, that regulates the discharge of treated ground water from the Spring Water Treatment facility into Conard's Branch in Monroe County, Indiana. The effluent parameters limited and/or monitored are flow and Total PCBs. The receiving waters are classified aquatic life in accordance with Indiana Water Quality Standards.

III. Tentative Determination

The Indiana Department of Environmental Management proposes to reopen the NPDES permitting process and reconvene a meeting in Bloomington, Indiana, to explain to the citizens that the NPDES permitting process is not bound by the Consent Decree.

IV. Procedures for the Formulation of Final Determination

A. Comment Period

Comments not submitted at the public hearing should be submitted in person or postmarked no later than 30 days from the date of this Public Notice. Deliver or mail all requests or comments to:

Indiana Department of Environmental Management
Permits Section
Office of Water Management
105 South Meridian Street
P.O. Box 6015
Indianapolis, IN 46206-6015

All Comments postmarked no later than 30 days from the date of this Public Notice will be considered in the formulation of the final determination.

B. Notice of Final Permit Determination

Any person who is interested in receiving notice of the final agency determination is requested to notify the agency at the above address during the specified comment period. Notice of final permit action will not be made to persons who fail to comment or to request such notice.

IV. Availability of Additional Information

The application, permit, including effluent limitations and special conditions, wasteload allocation study and habitat evaluation study (if any), comments received, and any other information are on file and may be inspected in Room 714, Indiana Department of Environmental Management, 105 South Meridian Street, Indianapolis, Indiana, at any time between 9:00 a.m., and 4:00 p.m., Monday through Friday. Copies of this Public Notice and the permit are available at the Indiana Department of Environmental Management. Other related documents may be copied at a cost of 15¢ per page. A copy of the permit is also on file with the local health department and is available for public review. Please bring the foregoing to the attention of persons whom you know would be interested in this matter.

2333B 10/17/91

IV. Procedures for the Formulation of Final Determination

A. Comment Period

Comments not submitted at the public hearing should be submitted in person or postmarked no later than 30 days from the date of this Public Notice. Deliver or mail all requests or comments to:

Indiana Department of Environmental Management
Permits Section
Office of Water Management
105 South Meridian Street
P.O. Box 6015
Indianapolis, IN 46206-6015

All Comments postmarked no later than 30 days from the date of this Public Notice will be considered in the formulation of the final determination.

B. Notice of Final Permit Determination

Any person who is interested in receiving notice of the final agency determination is requested to notify the agency at the above address during the specified comment period. Notice of final permit action will not be made to persons who fail to comment or to request such notice.

IV. Availability of Additional Information

The application, permit, including effluent limitations and special conditions, wasteload allocation study and habitat evaluation study (if any), comments received, and any other information are on file and may be inspected in Room 714, Indiana Department of Environmental Management, 105 South Meridian Street, Indianapolis, Indiana, at any time between 9:00 a.m., and 4:00 p.m., Monday through Friday. Copies of this Public Notice and the permit are available at the Indiana Department of Environmental Management. Other related documents may be copied at a cost of 15¢ per page. A copy of the permit is also on file with the local health department and is available for public review. Please bring the foregoing to the attention of persons whom you know would be interested in this matter.

2333B 10/17/91

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT PROGRAM

PUBLIC NOTICE of PUBLIC HEARING

Indiana Department of Environmental Management
105 South Meridian Street
Indianapolis, Indiana 46225
317/232-8760

Permit No.: IN 0045918

Name and Address of Applicant:	Location Where Discharge Is To Occur:
Westinghouse Electric Corporation Environmental Technology Division Box 286 Madison, PA 15663-0268	Westinghouse Electric Corporation Neals Landfill P.O. Box 341, Section 33, T9N, R2W State Highway 48 West Bloomington, IN 47402

I. Hearing Information

A Public Hearing will be held on the 25th day of November, at 7:00 p.m., EST. The location of the hearing is the Whittenberger Auditorium (IU campus), 1st Floor, 900 East 7th Street, Bloomington, Indiana 47405.

The hearing is being held to comply with Special Judge Norman D. Curry's order and to allow public participation in the determination of the issuance of a NPDES permit to Westinghouse Electric Corporation for the Neal's Landfill facility in Monroe County, Indiana. Special Judge Curry also ordered that the Department state that the NPDES permit is not bound by the Consent Decree. At said hearing, all interested parties may submit written or oral statements to the Hearing Officer for consideration.

II. Permit Information

The above-mentioned applicant has been operating under NPDES Permit No. IN 0045918 which was issued June 7, 1988, that regulates the discharge of treated ground water from the Spring Water Treatment facility into Conard's Branch in Monroe County, Indiana. The effluent parameters limited and/or monitored are flow and Total PCBs. The receiving waters are classified aquatic life in accordance with Indiana Water Quality Standards.

III. Tentative Determination

The Indiana Department of Environmental Management proposes to reopen the NPDES permitting process and reconvene a meeting in Bloomington, Indiana, to explain to the citizens that the NPDES permitting process is not bound by the Consent Decree.



JACOBS ENGINEERING GROUP INC.
ENVIRONMENTAL SYSTEMS DIVISION

222 S. RIVERSIDE PLAZA - SUITE 1870 CHICAGO, ILLINOIS 60606 (312) 648-0002 FAX (312) 648-0551

May 26, 1989

Mr. John Perrecone
TES IV Primary Contact
U.S. Environmental Protection Agency
Region V
230 South Dearborn Street
Chicago, IL 60604

RE: Contract No. 68-01-7351
Project No. 05-B945-00
Work Assignment No. 945
Westinghouse Superfund Sites
Bloomington, Indiana
Community Relations Support
CERCLA, Region V

Dear Mr. Perrecone:

Please find submitted herewith one copy each of the Westinghouse Administrative Order Fact Sheet, and the flyer announcing the May 4, 1989 briefing on the Westinghouse plant site.

If you have any questions or require additional information please feel free to contact either Rheta Smith or me at (312) 648-0002.

Sincerely,

A handwritten signature in cursive script, reading 'Michael J. Strimbu'.

Michael J. Strimbu
Acting Regional Manager

Enclosures

cc: E. Howard, U.S. EPA Regional Contact
R. Smith, JEG Work Assignment Manager

✓



BRIEFING

U. S. EPA invites you to a briefing to discuss the investigation of PCB contamination at the Westinghouse plant facility at 300 North Curry Pike and surrounding areas. U. S. EPA Region 5 representatives will be present. This briefing is intended to inform you of the required investigation and to answer any questions you may have.

DATE: May 4, 1989

TIME: 10:00 AM

PLACE: Fountain Square

(South of Courthouse)

Ballroom, 3rd Floor



FACT SHEET

Westinghouse Facility

Administrative Order

May 1989

Background

The Westinghouse Electric Corporation--Distribution Apparatus Division Facility (Facility) is located on a 148 acre site at 300 North Curry Pike in Bloomington, Monroe County, Indiana. The Facility, which is about two and one-half miles west of downtown Bloomington is in a predominantly light industrial and retail setting. A fence, which surrounds the plant buildings and parking lot, has a controlled gate entry.

The Town of Ellettsville owns approximately six acres immediately north of the Westinghouse Facility. The Ellettsville Fire Department Station No. 8 is located on the property. A mobile home park lies directly north of the Facility, and a second mobile home park is located within one-quarter mile north of the Facility. Other residential neighborhoods are located approximately one-half mile south and one-half mile southeast of the facility.

Westinghouse began operation at the Facility in 1958. The Westinghouse plant manufactures and sells capacitors, reducers, breakers, lightning arresters, switches and other equipment for the transmission and

distribution of electrical power. Primary customers are the electric utilities and industries located in the U.S. and abroad. Westinghouse employs approximately 700 people at the plant.

Westinghouse disposed of large quantities of capacitors and transformers which contained **polychlorinated biphenyls (PCBs)** in several locations. In 1976, samples of fish in Clear Creek, Salt Creek and White River contained more than 60 parts per million (ppm) PCBs. PCBs were also detected in Bloomington sewers and in sludge from the Winston Thomas Sewage Treatment Plant. Westinghouse discontinued use of PCBs in 1976. (Words in **boldface** are defined in the glossary).

Sampling and Site Inspection

U.S. EPA, with assistance from the Indiana State Board of Health (ISBH), sampled off-site sediment and surface waters in October 1981. The sediment samples contained PCBs in concentrations as high as 1,100 ppm. Surface water samples had concentrations of PCBs as high as 149 parts per billion (ppb).

The Indiana Department of Environmental Management (IDEM) conducted a **Site Inspection** of the property in August 1988. IDEM collected soil, sediment and surface water samples on-site and on properties adjacent to the northern boundary of the Facility. PCBs were found in most samples.

PCB concentrations in soil and sediment samples were as high as 34,000 ppm. The highest PCB concentrations were found in sediments from the drainage ditch carrying runoff from the roof. PCBs were found in the sediments both on-site and in the drainage ditch on property owned by the Town of Ellettsville. Surface water PCB concentrations were as high as 77 ppb.

Administrative Order

On May 3, 1989, U.S. EPA issued an **Administrative Order** (Order) under the **Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)** to Westinghouse Electric Corporation to excavate PCB-contaminated soils at the Facility. The Facility is believed to pose a threat to the public health and surrounding environment. This action is needed to inhibit the actual or potential spread of PCBs from the Facility into near-by soils and surface waters. The Order requires that Westinghouse provide access to the facility to representatives of the U.S. EPA and the IDEM to monitor the work. The Order requires Westinghouse to undertake the following actions:

Within five calendar days after the Order becomes effective Westinghouse must;

- o Fence areas of soil with total PCB concentrations above 10 ppm,
- o Post warning signs near on-site fenced areas with total PCB concentrations in soils above 25 ppm.

Within fifteen calendar days after the Order becomes effective Westinghouse must submit to U.S. EPA a plan that includes;

- o Site safety and health measures to protect on-site personnel, to prevent the movement of contaminated materials beyond site boundaries, and initial air monitoring,
- o Soil and sediment sampling to characterize the horizontal and vertical extent of on-site and off-site soil and sediment contamination,
- o Provisions for containment of soils, surface water and rainwater runoff to prevent public access and possible exposure to contaminated soils, and to prevent further migration of contaminated soils and water.

Within thirty calendar days after the Order becomes effective Westinghouse must submit to U.S. EPA for approval a plan for;

- o Ground water monitoring to determine the direction and rate of groundwater movement in the immediate vicinity of the Facility,
- o Surface water sampling to determine if any surface water is contaminated,
- o Air monitoring that will include data from at least one high volume air sampler. The sampler will be located downwind from the activity where it will provide the highest concentrations of dust generated during the site activities,
- o Characterization of PCB contamination of the plant roof and storm drainage systems, including PCB-contaminated culverts,
- o Excavation of PCB-contaminated soils, sediment and material, located north of the existing north plant fence which contain total PCB concentrations over 10 ppm.

All off-site soils that contain concentrations of PCBs greater than 10 ppm must be excavated according to an approved excavation plan. Fenced on-site soils that contain concentrations of PCBs greater than 25 ppm may either be excavated or left in place pending the outcome of an **Engineering Evaluation/Cost Analysis (EE/CA)** of the Facility. On-site soils that contain concentrations of PCBs greater than 10 ppm and are not fenced must be excavated under an approved excavation plan.

U.S. EPA will consider alternatives for disposal of contaminated soils, sediments and materials. All contaminated materials over the allowed limits will either be subject to an EE/CA or will be removed, disposed of and/or treated in accordance with the **Toxic Substances Control Act (TSCA)** and the **Resource Conservation and Recovery Act (RCRA)** as amended by the **Hazardous and Solid Waste Amendments (HSWA)**.

Information Repository

An information repository contains documents related to the investigation and cleanup of Superfund sites. Anyone who is interested in more information on the Westinghouse Facility Administrative Order is encouraged to consult the Administrative Record supporting this Order in the PCB Information Repository in the Monroe County Public Library at 303 East Kirkwood, Bloomington, IN, 47401. The Administrative Record is also available for review in the Town Hall Building, 221 North Sale Street, Ellettsville, IN, 47429, and at U. S. EPA Region 5, 230 South Dearborn Street, Chicago, IL, 60604.

Mailing List

If you wish to be placed on the Westinghouse Facility site mailing list, please complete this form, detach and mail to:

John Perrecone (5PA-14)
U.S. Environmental Protection Agency
Region 5 Office of Public Affairs
230 South Dearborn Street
Chicago, IL 60604

NAME _____

AFFILIATION _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____ PHONE _____

For More Information

U.S. EPA Region 5 Contacts

Steve Faryan
On Scene Coordinator
Office of Superfund
230 South Dearborn Street
Chicago, IL 60604
(312) 353-9351

John Perrecone
Community Relations Coordinator
Office of Public Affairs
230 South Dearborn Street
Chicago, IL 60604
(312) 886-6685

Dan Hopkins
Remedial Project Manager
Office of Superfund
230 South Dearborn Street
Chicago, IL 60604
(312) 886-5994

Rheta J. Smith, Jacobs Engineering
Community Relations Specialist
Public Information Center
212 Fountain Square
Bloomington, IN 47403
(812) 333-5372

GLOSSARY

Administrative Order - A legal document signed by U.S. EPA directing an individual, business, or other party to take corrective action or refrain from an activity.

Administrative Record - The information used by U.S. EPA to select a response at a site.

Cleanup - Actions taken to deal with a release or threat of release of a hazardous substance that could affect human health and/or the environment. The term "cleanup" is sometimes used interchangeably with the terms remedial action, ~~removal action~~, response action, or corrective action .

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) - A federal law passed in 1980 and modified in 1986 by the Superfund Amendments and Reauthorization Act (SARA). The act created a special tax that goes into a trust fund, known as Superfund, to investigate and cleanup hazardous waste sites.

Engineering Evaluation/Cost Analysis (EE/CA) - A study that characterizes current site conditions and contaminants present at a site and identifies and addresses alternative removal actions.

National Priorities List - EPA's list of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action under Superfund.

Polychlorinated Biphenyls (PCBs) - A group of toxic, persistent chemicals used in transformers and capacitors for insulating and lubrication. Further sale or new use of PCBs was banned by law in 1979.

Removal Action - Short-term immediate actions taken to address releases of hazardous substances that require expedited response.

Resource Conservation and Recovery Act (RCRA) - The Federal law that regulates the treatment, storage and disposal of hazardous wastes. The Act was updated by the Hazardous and Solid Waste Amendments (HSWA) of 1984, which emphasizes groundwater protection through new technology in managing and treating hazardous and solid waste.

Site Inspection - The collection of information from a Superfund site to determine the extent and severity of hazards posed by the site.

Superfund - The program operated under the legislative authority of CERCLA and SARA that funds and carries out U.S. EPA solid waste emergency and long term remedial activities. These activities include establishing the NPL, investigating sites for inclusion on the NPL, determining their priority level on the list, and conducting and/or supervising the ultimately determined cleanup and other remedial actions.

Toxic Substances Control Act (TSCA) - The Federal law that gives U.S. EPA authority to control chemical substances from before their manufacture to final disposal in order to minimize risk to human health and the environment. Under this law U.S. EPA banned the manufacture and use of PCBs in 1976.

FOR THE SOUTHERN DISTRICT OF INDIANA
INDIANAPOLIS DIVISION

UNITED STATES OF AMERICA,

Plaintiff,

and

THE STATE OF INDIANA and
THE ENVIRONMENTAL MANAGEMENT
BOARD OF THE STATE OF INDIANA,

Intervening Plaintiffs,

v.

CBS CORPORATION, f/k/a WESTINGHOUSE
ELECTRIC CORPORATION,

Defendant and Third
Party Plaintiff,

v.

MONSANTO COMPANY

Third Party Defendant,

and

THE CITY OF BLOOMINGTON,
INDIANA, THE UTILITIES SERVICE
BOARD OF BLOOMINGTON, INDIANA,
and MONROE COUNTY, INDIANA,

Plaintiffs,

v.

CBS CORPORATION, f/k/a WESTINGHOUSE
ELECTRIC CORPORATION and MONSANTO
COMPANY,

Defendants.

Civil Action No. IP 83-9-C

and

Civil Action No. IP 81-448-C

JUDGE S. HUGH DILLIN

MAGISTRATE JUDGE KENNARD P.
FOSTER, SPECIAL MASTER

MEMORANDUM OF POINTS AND AUTHORITIES OF THE UNITED STATES AND
STATE OF INDIANA REGARDING REQUIREMENTS FOR OFFSITE DISPOSAL

The United States of America, on behalf of the United States Environmental Protection Agency ("EPA"), and the State of Indiana, on behalf of the Indiana Department of Environmental Management ("IDEM") hereby submit this Memorandum of Points and Authorities (this "Memorandum") to Magistrate Judge Foster, as Special Master, for purposes of assessing the need for CBS to obtain certain permits and/or other approvals if the Neal's Landfill Site is selected as the location for transportation and disposal of excavated waste contaminated with polychlorinated biphenyls ("PCBs") from the Lemon Lane Landfill ("Lemon Lane"), Neal's Dump, and Bennett's Dump, also known as Bennett's Stone Quarry, as part of an amended consent decree in this Civil Action.

The United States and State of Indiana submit this Memorandum to the Court in the existing context of the informal, off-the-record proceedings that Magistrate Judge Foster has been holding in order to promote a settlement of the parties and to achieve compliance with Judge Dillin's orders of November 18 and 21, 1997. The United States and State of Indiana hope the parties can reach agreement on an amended consent decree with the help of Magistrate Judge Foster. If an agreement is reached, then as part of the process of amending the consent decree and consistent with the Statement of Operating Principles filed with the Court on February 8, 1994, EPA intends to select the site clean-ups in accordance with statute and applicable regulations through appropriate decision documents, including Amended Records

of Decision ("RODs") providing for the clean-ups of all consent decree sites no later than December 31, 1999.

I. BACKGROUND

This civil action is governed by the provisions of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C. § 9601 et seq., as amended by the Superfund Amendments and Reauthorization Act of 1986 ("SARA"), Pub. L. No. 99-499, 100 Stat. 1613 (collectively, "CERCLA").

Congress enacted CERCLA in response to widespread concern over the severe environmental and public health effects resulting from improper disposal of hazardous wastes and other hazardous substances.^{1/} Investigations, cleanup planning, and all cleanup activities under CERCLA are referred to as "response actions" under CERCLA since such activities are conducted to "respond" to releases or threats of release of hazardous substances at a particular location. See 42 U.S.C. §§ 9601(23)-(25). Permanent or long-term response actions are generally known as "remedial actions." 42 U.S.C. § 9601(24). The National Contingency Plan ("NCP"), 40 C.F.R., Part 300, provides "the organizational structure and procedures' for responding to hazardous waste threats. 40 C.F.R. § 300.1. It is the means by which EPA implements CERCLA." State of Ohio v. EPA, 997 F.2d 1520, 1525

^{1/} See generally United States v. R.W. Meyer, Inc., 889 F.2d 1497, 1500 (6th Cir. 1989), cert. denied, 494 U.S. 1057 (1990); United States v. Akzo Coatings of Am. Inc., 949 F.2d 1409, 1416-18 (6th Cir. 1991); Eagle-Picher v. U.S. EPA, 759 F.2d 922, 925 (D.C. Cir. 1985); United States v. Seymour Recycling Corporation, 679 F. Supp. 859 (S.D. Ind. 1987).

(D.C. Cir. 1993). See also 42 U.S.C. § 9605 (requiring EPA to promulgate the NCP to govern selection and implementation of response actions under CERCLA).

CERCLA mandates that all remedial actions selected by the President be protective of human health and the environment, both in the manner in which the remedial action is implemented, and the degree of cleanup achieved. 42 U.S.C. § 9621(b), (d). In addition to this general requirement, at a minimum, CERCLA requires adherence to the substantive standards of all applicable state and federal environmental laws and standards, whether the remedial action is conducted entirely within a single site or contains offsite components. See 42 U.S.C. §§ 9621(d)(2) and (3). Procedural requirements of state and federal environmental laws and standards are treated differently, depending upon whether remedial action components are conducted entirely onsite or whether offsite components to the remedial action exist. These differences, as well as the differences between the terms "offsite" and "onsite", are discussed in Parts II and III, below.

II. REMOVAL OF MATERIALS FROM THE FIVE SEPARATE SITES TO NEAL'S LANDFILL CONSTITUTES OFFSITE REMEDIATION ACTIVITIES, THUS REQUIRING PERMITS, APPROVALS, AND OTHER AUTHORIZATIONS.

A. Requirements Relating To Offsite Disposals.

Section 121(d)(3) of CERCLA provides that an "offsite" transfer of CERCLA waste to another location, including another CERCLA site, must be to a facility operating in compliance with both the procedural and substantive requirements of federal and state environmental laws, such as the Toxic Substances Control

Act ("TSCA"), 15 U.S.C. §§ 2601 et seq. and Subtitle C (Subchapter III as codified) of the Resource Conservation and Recovery Act ("RCRA"), 42 U.S.C. §§ 6921 et seq.^{2/} See 42 U.S.C. § 9621(d)(3); 40 C.F.R. § 300.440(a)(4); 40 C.F.R. § 300.440(b). In addition, CERCLA waste may only be transferred after EPA determines that the unit within the facility to which the CERCLA waste is transferred is not releasing any hazardous waste or constituent of a hazardous waste into the groundwater, surface water, or soil. 42 U.S.C. § 9621(d)(3)(A) and (B). See also 40 C.F.R. § 300.440(b). If any releases occur from a different unit at the same hazardous waste facility, they must be controlled by a corrective action program approved by EPA under RCRA subtitle

^{2/} Section 121(d)(3) of CERCLA states:

In the case of any removal or remedial action involving the transfer of any hazardous substance or pollutant or contaminant offsite, such hazardous substance or pollutant or contaminant shall only be transferred to a facility which is operating in compliance with section 3004 and 3005 of the Solid Waste Disposal Act [42 U.S.C. § 6924 and 6925, also known as RCRA] (or, where applicable, in compliance with the Toxic Substances Control Act [15 U.S.C. § 2601 et seq.] or other applicable federal law) and all applicable State requirements. Such substance or pollutant or contaminant may be transferred to a land disposal facility only if the President determines that both of the following requirements are met:

- (A) The unit to which the hazardous substance or pollutant or contaminant is transferred is not releasing any hazardous waste, or constituent thereof, into the groundwater or surface water or soil.
- (B) All such releases from other units at the facility are being controlled by a corrective action program approved by the Administrator under Subtitle C [Subchapter 3 as codified] of the Solid Waste Disposal Act [42 U.S.C. §921 et seq.].

C, 42 U.S.C. §§ 6921 et seq. 42 U.S.C. § 9621(d)(3)(B); 40 C.F.R. § 300.440(e). The NCP charges EPA with the responsibility of determining whether the receiving facility is in compliance. 40 C.F.R. § 300.440(a)(4).

In order to implement CERCLA's statutory distinction between CERCLA waste "that will remain onsite" and CERCLA waste transferred "offsite," EPA has promulgated regulations providing that "the term on-site means the areal [pertaining to an area] extent of contamination and all suitable areas in very close proximity to the contamination necessary for implementation of the response action." 40 C.F.R. § 300.400(e)(1) (emphasis added). In promulgating that rule, EPA made clear that its regulatory definition of "onsite" was carefully tailored both to avoid being "too expansive...[by] encompass[ing] many square miles, with discrete areas of contamination rather than contamination throughout." 55 Fed. Reg. 8666, 8689 (March 8, 1990), and to be broad enough to encompass "suitable areas" nearby needed for implementing a response action.^{3/} EPA stressed that such decisions are to be made on a case-by-case basis, including other

^{3/} EPA explained the inclusion of nearby "suitable areas" within the definition of "onsite" by providing the following concrete example:

The example described in the preamble to the proposed rule was contamination located in a lowland marshy area. When it is not possible to locate an incinerator or construction staging area in that marshy area, it may be located in an uncontaminated upland area in very close proximity and still fall within the exemption.

55 Fed. Reg. at 8689.

factors, such as density of population or whether wastes at different facilities are similar or identical. 55 Fed. Reg. at 8690, including n.4. After EPA promulgated that regulation, it was challenged by numerous parties as "expand[ing] the permit exemption of section 121(e)(1) beyond its intended scope" in a petition for review of the regulation in State of Ohio v. EPA, 997 F.2d at 1549. The United States Court of Appeals for the D.C. Circuit upheld the regulation, but cautioned that "the ability of the statute to accommodate a broader, more functional definition of 'onsite' is not limitless." Id. at 1549. The court suggested that a later challenge might be sustained if based on its case-by-case application of the definition, "EPA has abused its flexible definition of 'onsite' to deliberately bypass other environmental laws or to implement response activities far afield of contaminated areas." Id. at 1549-50.^{4/}

^{4/} The Court in State of Ohio v. EPA deemed unripe for judicial review a challenge to the possibility that EPA might in some cases treat non-contiguous, but reasonably related facilities as a single site under its regulation. See 997 F.2d at 1550. In the preamble to its final rule, EPA asserted its "discretion to treat non-contiguous facilities as one site for the purpose of taking response action," based on an assessment of the particular circumstances involved, including whether the "facilities are reasonably close to one another" and whether the "wastes are compatible for the selected treatment or disposal approach." 55 Fed. Reg. at 8690 (emphasis added). EPA emphasized that it would make such assessments "on a case-by-case basis." Id. For the reasons set forth in this Memorandum, EPA has declined throughout the history of its involvement with the six Consent Decree sites to use its discretionary authority to treat the sites as a single site. EPA's treatment of the sites as separate sites in this manner is consistent with CERCLA and the logic of State of Ohio v. EPA.

B. Removal of Materials From the Five Separate Sites To Neal's Landfill Constitutes "Offsite" Remediation Activities.

It is clear in the present case that any transfer of CERCLA wastes from the various Consent Decree sites to a single location would be "offsite" transfers of such wastes under CERCLA and governing federal regulations. Thus, all substantive and procedural requirements of other federal and state environmental laws would apply, including TSCA and/or RCRA permitting requirements. Any such transfers of CERCLA waste would be considered "offsite" transfers because the waste involved would come from five separate and distinct "sites."

In this case, there are a number of good reasons why EPA always has found the Consent Decree sites to be six separate "sites" and has consistently treated them accordingly. Neal's Landfill, Neal's Dump, Lemon Lane, and Bennett's Dump each were separately listed on the National Priorities List ("NPL"). The NPL is a list of those sites containing uncontrolled releases of hazardous substances considered top priority for long term remedial evaluation and response. The listing of the four NPL sites were based on separate EPA analyses of the human health and environmental risk posed by those sites.^{5/} See also: 40 C.F.R.

^{5/} See 47 Fed. Reg. 58476, 58483-85 (Dec. 30, 1982) (proposed listing for Neal's Landfill and Lemon Lane as separate NPL sites); 48 Fed. Reg. 40658, 40672-73 (Sept. 8, 1983) (final rule, NPL listing for Neal's Landfill and Lemon Lane); 48 Fed. Reg. 40674, 40682 (Sept. 8, 1983) (proposed listing for Bennett Stone Quarry); 49 Fed. Reg. 37070, 37085 (Sept. 21, 1984) (Final Rule, NPL listing for Bennett Stone Quarry); 49 Fed. Reg. 40320, 40331 (Oct. 15, 1984) (Neal's Dump proposed listing); 51 Fed. Reg. (continued...)

Part 300, App. B(1997) (showing continued separate listing for each site). Similarly, EPA separately determined that Winston-Thomas and Anderson Road should not be listed on the NPL.^{5/} In addition, as noted above, EPA has treated the six sites as separate sites in the Consent Decree and throughout this litigation, particularly in the process of finding alternative remedies for each site. See Schedule and Amended Schedule submitted to the Court for determination of alternative remedies, attached to Status Reports, filed February 12, 1996 and February 13, 1997, respectively. Appropriate deference should be shown for EPA's consistent treatment of the various sites as separate sites. Chevron U.S.A., Inc. v. Natural Resources Defense Council, Inc., 467 U.S. 837, 843-44, 865) (1984) ((1) agency rules to fill gap in congressionally created program given controlling weight absence showing as "arbitrary, capricious, or manifestly contrary to the statute" and (2) principle of deference to agency's administrative interpretations of a statutory scheme, particularly when scheme is technical and complex); Bethlehem Steel Corporation v. Bush, 918 F.2d 1323, 1327-28 (deference to

^{5/} (...continued)

21054, 21071 (June 10, 1986) (final rule, NPL listing for Neal's Dump). These notices are attached hereto as Exhibit A.

^{6/} Like EPA, CBS has always considered the sites to be separate. As it (then known as Westinghouse Electric Corporation) explained in its 1991 permit application for the planned ash landfill at Bottom Road, "[i]n accordance with the consent decree, Westinghouse is required to remediate six sites in and around Bloomington, Indiana." Westinghouse Landfill Permit Application at B-1-2 (August 14, 1991).

EPA's construction of statute it is entrusted to administer and "[t]he agency's action should be upheld, absent proof of contrary legislative intention, when the action is 'a reasonable accommodation of conflicting policies that were committed to the agency's care by the statute,'" quoting Chevron, 467 U.S. at 845).

EPA has always had ample bases for its treatment of the consent decree sites as separate and distinct sites. Each site has its own individual characteristics that distinguish it from the other five sites. Though they all contain PCBs in varying concentrations, the overall composition of wastes at each of the sites is individual to that site. For example, PCB contaminated sewage sludge at the bottom of the tertiary lagoon at Winston-Thomas is quite different from the undiluted PCB product that the parties expect is buried along with municipal solid waste at Lemon Lane. In addition, EPA believes that other hazardous substances -- such as the carcinogenic organic solvent trichloroethylene ("TCE") -- are among the wastes at Lemon Lane, as determined from sampling results just downgradient from the Site (See results from MW-6, Exhibit B) and at Neal's Landfill, as noted in IDEM's response to comments, dated June 8, 1988, relating to IDEM's issuance of a Clean Water Act discharge permit for the spring water treatment facility at Neal's Landfill. Exhibit C, at ¶ 5. On the other hand, the parties believe that Neal's Dump contains only buried, whole PCB-containing capacitors and the PCB contamination at Winston-Thomas consists of PCB fluid

which was spilled or poured into the drain at CBS's former manufacturing plant in Bloomington, reached the wastewater treatment facility through the sewers, and was processed into sewage sludge. In fact, given the variety of different kinds of wastes disposed of at Lemon Lane and Neal's Landfill, it is indeed possible that the waste contained at the different sites may not be compatible if disposed of together. See 40 C.F.R. § 761.75(b)(8) (TSCA regulation requiring, among other things, to segregate "other wastes placed in the landfill that are not chemically compatible with PCBs and PCB Items including organic solvents....")

Moreover, the sheer distance between each of the sites shows that EPA's classification of the sites under CERCLA and its governing regulations was not arbitrary and capricious. As noted above, the definition of "onsite" set forth in the National Contingency Plan encompasses only "the areal extent of contamination and all suitable areas in very close proximity to the contamination necessary for implementation of the response action." 40 C.F.R. § 300.5(emphasis added). The five remaining sites are miles from each other. One site, Lemon Lane, is adjacent to a trailer park, whereas Neal's Landfill is in a more rural location and Bennett's Dump is in the middle of an area of stone quarries. Neal's Dump is located approximately fifteen miles from Neal's Landfill, and potentially threatens a different watershed, in a different county, and on the other side of small population centers, such as Ellettsville. Any effort in this case

by EPA to stretch the statutory term "onsite" to include the five remaining consent decree sites as a single site in order to avoid permitting and authorization requirements would have done precisely what the United States Court of Appeals for the D.C. Circuit warned against in Ohio v. EPA, *supra*.

In addition, the Consent Decree itself in this case expressly referenced the areas of contamination involved here as six distinct "sites."^{2/} The Consent Decree provides:

The general purpose of the activities to be performed pursuant to this Consent Decree is to excavate and remove quantities of soil, solid waste and other materials contaminated with polychlorinated biphenyls ('PCBs') and other associated materials from six sites in the Bloomington, Indiana area....The six sites are Neal's Landfill, Neal's Dump, Lemon Lane Landfill, Bennett's Dump, the Winston-Thomas Facility, and the Anderson Road Landfill.

Consent Decree ¶ 4. Each of the separate sites was identified in a separate exhibit to the Consent Decree, and defined by precise metes and bounds descriptions. Consent Decree, Exhibits 1, 2, 3, 7, 8, 9, and 10. In addition, CBS's responsibilities under the Consent Decree regarding both interim measures (except for Neal's Dump) and removal of PCE-contaminated materials were set forth separately for each of the sites. See Consent Decree, ¶¶ 59(a)-(e) for interim measures; ¶¶ 46-50 for removal of materials. In fact, the Consent Decree made it clear that CBS was to apply for and obtain all required federal, state, and local permits, and could not even challenge the jurisdiction of the United States,

^{2/} The sixth site, the Anderson Road Landfill, has been fully remediated, and is not involved in the cleanups that are the subject of this Memorandum.

State of Indiana Monroe County, or City of Bloomington to issue a permit or take approval action. See Consent Decree at ¶ 102-03.

For all of these reasons, EPA's decision to treat the sites separately had a compelling basis and was certainly not arbitrary and capricious and should be accorded appropriate deference.

III. EVEN IF ALL REMEDIATION ACTIVITIES ARE CONSIDERED "ONSITE" CERCLA REQUIRES FULL COMPLIANCE WITH ALL SUBSTANTIVE REQUIREMENTS OF ALL APPLICABLE LAWS AND REGULATIONS. 9/7.

As noted above, even if EPA could reasonably consider the transfer of CERCLA wastes from the five separate sites to Neal's Landfill as activity "entirely onsite," CERCLA still requires compliance with all substantive applicable federal environmental laws, standards, requirements, and limitations, plus any promulgated state standards more stringent than the federal standards and that are timely identified by the State. 42 U.S.C. § 9621(d)(2). See also 40 C.F.R. 300.430(f)(1)(ii)(B); Ohio v. EPA, 997 F.2d at 1526. These requirements are generally known as "applicable or relevant and appropriate requirements" or "ARARs." The NCP limits the definition of ARARs to substantive requirements of the applicable or relevant and appropriate requirements. See 40 C.F.R. § 300.5 (definitions of "applicable requirements" and "relevant and appropriate requirements.") See also Ohio v. EPA, 997 F.2d at 1526. Applicability of these provisions is consistent with the statutory exception for portions of a remedial action conducted entirely onsite. See 42 U.S.C. § 9621(e)(1). As such, and although an approval or permit for a landfill meeting the requirements of TSCA and RCRA subtitle

C is not required, the substantive requirements for transportation of TSCA and RCRA hazardous waste, and for the siting, construction, and operation of a landfill under TSCA and RCRA subtitle C are nevertheless required, as are any other ARARs, such as Clean Water Act discharge requirements. See Ohio v. EPA, 997 F. 2d at 1526-27.

CERCLA allows EPA to waive ARARs only for the following reasons:

- (A) the remedial action selected is only part of a total remedial action that will attain such level or standard of control when completed.
- (B) compliance with such requirement at that facility will result in greater risk to human health and the environment than alternative options;
- (C) compliance with such requirements is technically impracticable from an engineering perspective;
- (D) the remedial action selected will attain a standard of performance that is equivalent to that required under the otherwise applicable standard, requirement, criteria, or limitation, through the use of another method or approach;
- (E) with respect to a State standard, requirement, criteria, or limitation, the State has not consistently applied (or demonstrated the intention to consistently apply) the standard, requirement, criteria, or limitation in similar circumstances at other remedial actions within the State; or
- (F) [applies only to federally funded remedial actions].

42 U.S.C. § 9621(d)(4). The grounds for a waiver, which may only be granted at EPA's discretion, are stringent, and, absent technical impracticability, cannot result in a lowering of the standard of protectiveness required. See also 40 C.F.R. § 300.430(f)(1)(C); See generally, United States v. Akzo Coatings,

949 F.2d 1409, 1438-50 (6th Cir. 1990): If EPA's waiver of an ARAR is successfully challenged, such as by a state pursuant to 42 U.S.C. § 9621(f), "the court is required to conform the remedial action to that ARAR." 949 F.2d at 1448.

IV. DISPOSAL OF CERCLA WASTE AT NEAL'S LANDFILL FROM THE OTHER SITES MUST MEET, AMONG OTHER REQUIREMENTS, THE SUBSTANTIVE AND PROCEDURAL REQUIREMENTS OF TSCA AND RCRA

A. Toxic Substances Control Act

Because the disposal of PCBs are at issue in this civil action, applicable laws governing the minimum requirements for a disposal facility include the Toxic Substances Control Act ("TSCA"), 15 U.S.C. §§ 2601 et seq., which imposed a statutory prohibition on the manufacturing, processing, or distribution of PCBs, and directed EPA to "prescribe methods for disposal of polychlorinated biphenyls." 15 U.S.C. §§ 2605(e)(2)(A), 2605(e)(1)(A). The regulations implementing TSCA include a finding by the EPA Administrator "that any exposure of human beings or the environment to PCBs, as measured or detected by any scientifically acceptable analytical method, may be significant...." 40 C.F.R. § 761.20. The regulations implementing the statutory command regarding disposal of PCBs are found at 40 C.F.R. §§ 761.60-79 (subpart D). They include the requirements for disposal of PCBs with concentrations of 50 parts per million ("ppm") or greater, 40 C.F.R. § 761.60. The only option for land disposal of PCBs meeting the regulatory threshold concentration of 50 ppm is in a chemical waste landfill that meets the requirements of 40 C.F.R. § 761.75.

The TSCA landfill regulations require: (1) that the owner or operator of a landfill seeking to dispose of PCB wastes obtain "written approval of the Agency Regional Administrator" in advance; (2) that the landfill meet a series of technical

requirements in the absence of a properly obtained waiver, which may sometimes be secured as part of the process of obtaining permission; and (3) that the proponent of permission also meet any site-specific requirements imposed as necessary to ensure that operation of the site does not impose an unreasonable risk to health or the environment. 40 C.F.R. §§ 761.75(a,c) (written approval); 761.75(b) (technical requirements); 761.75(c) (4) (waiver); and 761.75(c) (3) (ii) (site specific requirements). An example of such a written approval for a chemical waste landfill for the Wayne Disposal facility in Belleville, Michigan, which is under consideration in this case as a possible disposal facility, is attached hereto as Exhibit D.

The technical requirements which must be met for a landfill to obtain approval as a disposal site are as follows, as summarized in Township of Van Buren v. EPA, 965 F. Supp. 959, 964-65 (E.D. Mich. 1997).

(1) Soils. The landfill must be located in thick, relatively impermeable formations, such as large-area clay pans.;

(2) Synthetic Membrane Liners. Synthetic membrane liners must be used when the Regional Administrator determines the hydrologic or geologic conditions require one in order to meet soil permeability requirements;

(3) Hydrologic Conditions. The bottom of the landfill shall be above the historic high groundwater table. Floodplains, shorelands, and groundwater recharge areas shall be avoided. There shall be no hydraulic connection between the site and standing or flowing surface water. The site shall have monitoring wells and leachate collection. The bottom of the landfill liner system or natural in-place soil barrier shall be at least fifty feet from the historical high water table;

(4) Flood protection. The landfill must provide structures for diverting all surface water runoff from a 24-hour, 25-year storm.

(5) Topography. The landfill site shall be located in an area of low to moderate relief to minimize erosion and to help prevent landslides or slumping;

(6) Monitoring Systems. The ground and surface water from the disposal site area must be sampled before, during, and after storage of PCBs. The water sampling must be analyzed for PCBs, pH, specific conductance, and chlorinated organics;

(7) Leachate Collection. A leachate collection monitoring system must be installed above the landfill. The system must be monitored monthly for the chemical composition of leachate. Leachate must be treated to acceptable limits for storage within the landfill or disposed of in accordance with other laws;

(8) Chemical waste landfill operations. PCBs shall be placed in a manner that will prevent damage to containers or articles. PCB waste must be segregated from other incompatible waste at the landfill. [These include specifically organic solvents]. The landfill must submit an operational plan to the Regional Administrator. This plan must include detailed explanations of the procedures to be used for recordkeeping, surface water handling, excavation and backfilling waste segregation burial coordinates, vehicle and equipment movement, use of roadways, leachate collection systems, sampling and monitoring procedures, emergency measures, and safety measures. Ignitable wastes shall not be permitted. Records must be maintained for the landfill.

(9) Supporting Facilities. A fence shall be built to prevent unauthorized access. Roads shall be maintained to allow proper operation of the site. [Roads to and within the site must also be able to avoid causing safety or nuisance problems or hazardous conditions.] The site shall be operated and maintained in a manner to prevent safety problems or hazardous conditions from spilled liquids and windblown materials.

Id.

An EPA Regional Administrator may issue a waiver of one or more requirements only if he or she finds that "the landfill will not present an unreasonable risk of injury to health or the environment from PCBs." 40 C.F.R. § 761.75(c)(4). Any such

waiver, including all findings, must be specified in writing in the authorization. Id.

B. The Resource Conservation and Recovery Act

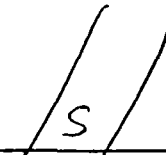
EPA expects that waste material to be excavated from at least some of the sites will not only exceed the TSCA thresholds for PCBs, but will also contain other hazardous substances which render the material "hazardous waste" subject to disposal in accordance with RCRA Subtitle C (Subchapter III as codified) and regulations promulgated thereunder. See generally 42 U.S.C. § 6922-24; 40 C.F.R. § 264.301. The RCRA hazardous waste landfill requirements are similar to TSCA requirements with certain variations, such as a requirement of a double bottom liner system. In accordance with Section 3006 of RCRA, 42 U.S.C. § 6926, EPA authorized the State of Indiana to administer its own RCRA program, including the permitting of RCRA subtitle C landfills. Pursuant to that authority, Indiana has promulgated regulations for RCRA hazardous waste landfills that are at least as stringent as EPA's. See 329 Ind. Admin. Code § 3.1. EPA retains enforcement authority for violations of any state-issued permit pursuant to 42 U.S.C. § 6928. See 61 Fed. Reg. 43009, 43017 (Aug. 20, 1996).

IV. CONCLUSION

For the reasons set forth in this Memorandum, the United States and the State of Indiana submit to this Court that the transportation and disposal of excavated CERCLA waste from Lemon Lane, Winston-Thomas, Neal's Dump, and Bennett's Dump to a disposal site at Neal's Landfill constitutes "offsite" remedial activities, which requires, among other things, an authorization by the EPA Regional Administrator pursuant to the TSCA regulations set forth at 40 C.F.R. § 761.75 and a RCRA hazardous waste permit pursuant to 40 C.F.R. § 264.301 and 329 Ind. Admin. Code § 3.1. In the alternative, the United States and State of Indiana maintain that, at a very minimum, the remedial action must meet the substantive requirements of such statutes as ARARs, plus any additional federal ARARs and ARARs of the State of Indiana.

Respectfully submitted,

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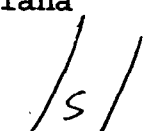
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CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing Memorandum of Points and Authorities of the United States and State of Indiana regarding Requirements for Offsite Disposal was deposited in a United States Department of Justice facility for same day mailing in the United States mails, first class on February 5, 1998, to the following:

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REPLY TO THE ATTENTION OF:

SR-6J

February 12, 1998

VIA TELECOPIER
& FEDERAL EXPRESS

Magistrate Judge Kennard P. Foster
United States Court House
Room 277
46 East Ohio Street
Indianapolis, IN 46204

FAX: 317.229.3629

RE: United States, et al. V. CBS Corporation, Civil Action Nos.
IP-83-9-C and IP-81-448-C, consolidated (S.D. Ind.)

Dear Judge Foster:

The United States Environmental Protection Agency (U.S. EPA) has reviewed the CBS Corporation (CBS) technical summary that was submitted to you on February 5, 1998. In response to your Judicial Order, dated February 6, 1998, the U.S. EPA and the other governmental parties submit the following response to CBS's technical summary. Based upon our review, U.S. EPA's position has not changed and we are of the opinion that sampling over the entire site at Neal's Landfill is essential to be able to develop a protective cleanup. As stated in our February 5, 1998, U.S. EPA correspondence, the U.S. EPA has already begun the steps in preparation to complete the sampling, if CBS refuses. U.S. EPA reserves its rights to pursue CBS for the cost of the boring program.

As discussed herein, reviewing the geophysical/geotechnical investigation proposed by CBS, U.S. EPA still rejects the Neal's Landfill "piggybacking" concept on substantive environmental grounds, because it would not provide the necessary assurance that placement of PCB and RCRA waste from the other sites would be protective of human health and the environment.

1. Response to Sampling of the Potentially Affected Water Ways

The U.S. EPA completely disagrees with CBS and its interpretation of U.S. EPA guidance. First, Neal's Landfill can only loosely be considered a municipal landfill and is more related to an uncontrolled dump. Please see enclosed historical correspondence in Attachment 1. Even if

by some stretch of the imagination were Neal's Landfill denominated a "typical" municipal landfill, determining "hot spots" is Agency policy. U.S. EPA views the unique circumstances of Neal's Landfill, such as evidence of large quantities of PCBs being disposed of across the site, karst geology and PCBs being a principal threat and not a low level threat, as reasons for investigating the entire landfill for "hot spots". The U.S. EPA expects containment to be a part of the Neal's Landfill site remedy, but investigating across the entire landfill for "hot spots" is routinely done at sites like Neal's Landfill. Enclosed in Attachment 2 is a list of a few of the Superfund sites across the country in which investigations took place within the landfill for "hot spots".

In another matter, CBS has mentioned that high flow could affect the schedule for fish sampling and the U.S. EPA agrees that safety is of the utmost importance. In addition, the possibility of high turbidity during high flow may affect the electro-shocking of the fish therefore, weather may affect the schedule. The U.S. EPA will work with CBS to obtain the most representative samples possible within the time frame ordered by Judge Dillin.

2. Response to Characterizing the PCB Content of Neal's Landfill Materials

In its technical summary, CBS has suggested that U.S. EPA's presumptive remedy guidance for municipal landfills should be applied to Neal's Landfill. The U.S. EPA agrees that containment will be a part of the final remedy at Neal's Landfill. The guidance, however, specifically states that it recognizes "that at some sites, there may be unusual circumstances (such as complex contaminant mixtures, soil conditions or extraordinary State and community concerns) that may require the site manager to look beyond presumptive remedies for additional (perhaps more innovative) technologies or remedial approaches". Searching for "hot spots" is Agency standard operating procedure and an effective way to deal with principal threat wastes. With waste disposal activities taking place over the entire Neal's Landfill, our proposed 91 borings will determine the location of principal threat material. Principle threat areas then can be removed appropriately. Attachment 3 is a drawing that shows areas where capacitors were discovered on the surface and reburied during the interim action and locations where capacitor paper was discovered. This random distribution and historical testimony indicates that disposal activities involving capacitors took place over the entire site. Therefore, the 91 borings proposed by U.S. EPA are justified based upon the known data.

The boring program into Lemon Lane Landfill has been called "a focused investigation," but CBS only agreed to perform a very limited part of that investigation and U.S. EPA had to fund additional borings. This approach has uncovered "hot spots" that U.S. EPA and the other governmental parties require to be removed from Lemon Lane Landfill. CBS is correct that the investigation at Lemon Lane Landfill focused on the south portion of the site. Lemon Lane Landfill had excellent aerial photographs, pertinent geophysics, an accurate history of disposal actions and information as to the locations of the sinkholes. This made the investigation into Lemon Lane Landfill more focused. Neal's Landfill, on the hand, had disposal activities over the entire area which forces U.S. EPA to require the 91 borings. In addition, the information from

the sampling within Neal's Landfill will help the Consent Decree parties make informed decisions about excavation within Neal's Landfill.

CBS mentions the Tri-City Industrial Disposal Site and the Red Penn Site as two sites where U.S. EPA applied a limited approach to sampling in the landfill. CBS fails to mention that Tri-City is over 324 acres, that volatile organic compounds are the contaminants of concern, not PCBs, that an emergency removal was completed to remove drums, free liquids and contaminated soils. Most importantly, numerous trenches were dug to determine waste disposal areas over the 324 acres. Enclosed in Attachment 4 is a summary of the Tri City Disposal Record of Decision. Regarding the 85-acre Red Penn site, an emergency removal of 85 drums and 207 cubic yards of contaminated soil was completed. During the Remedial Investigation for the Red Penn site, a soil gas survey was completed inside the landfill to determine "hot spots". Based upon the results of a Remedial Investigation for the Red Penn site, the U.S. EPA determined that a No Action Record of Decision was appropriate based upon a completed risk assessment. Enclosed in Attachment 4 is a fact sheet providing more information on the Red Penn site. As stated previously, the U.S. EPA has enclosed in Attachment 2 a list of landfills where the U.S. EPA investigated for "hot spots". In another example, at the Wright Patterson Air Force Base in Dayton, Ohio, the U.S. Air Force, under the direction of the U.S. EPA, performed numerous on-site soil borings within 13 landfills that received both municipal and industrial wastes. The purpose of these borings was to characterize soil/waste and leachate "hot spots" and the resulting risk to human health and the environment. In addition to these borings, test pits and leachate monitoring wells were installed within these landfills.

The U.S. EPA does not agree that the search for "hot spots" should be avoided, as stated by CBS. The PCBs in Neal's Landfill are mobile, as established by the PCB levels appearing in north spring, south spring, southwest seep, and overflow spring. Landfilling is a common disposal option for PCBs, but in permitted facilities with bottom liners, leachate collection, etc. To conclude that Neal's Landfill is somehow equivalent to a permitted TSCA facility is to ignore the facts.

On page 3, paragraph one, CBS states that the Bloomington PCB sites, "even in their current condition do not present a threat". The U.S. EPA disagrees with this conclusion.

The fact that the Indiana State Department of Health (ISDH) issues fish consumption advisories for streams harmed by the Bloomington PCB sites demonstrates a current public health concern (ISDH, 1997 Indiana Fish Consumption Advisory). To protect the public from exposure to PCBs, the Agency for Toxic Substances and Disease Registry (ATSDR) of the United States Public Health Service recommended taking appropriate measures in the Bloomington area to eliminate the ingestion of contaminated fish and game from PCB contaminated streams (ATSDR 1996, vol III, Page 6). ISDH has fish consumption advisories for Richland Creek, downstream of Neal's Landfill. Currently, the water treatment plant at Neal's Landfill cannot treat all PCB contaminated water now being released from the landfill and it must be bypassed into Richland Creek. ISDH fish consumption advisories are also in place for Clear Creek which receives PCB

contaminated waters discharged from Lemon Lane Landfill. A fish consumption advisory also exists for Stout's Creek located adjacent to Bennett's Dump. These advisories, which are renewed annually, would no longer be in place if there were not a current threat to public health.

Apparently in reaching the erroneous conclusion that "the sites, even in their current condition, do not present a threat", CBS ignored the ecological threats from the Bloomington PCB sites as documented by U.S. FWS and Indiana University and submitted to the court (Henshel, D.S., D.W. Sparks, et al., PCB Effects on Passerine Productivity, Reproductive Success, Growth and Development: A Multi-species Comparison, November, 1997; Henshel, D.S., D.W. Sparks, et al., Effects on *in ovo* PCB Exposure on Early Embryonic Growth and Development in Tree Swallows, November, 1997). In studies conducted during 1995 and 1996, statistically significant differences (mean weights) in the lungs, spleen, kidney and hearts were found in nestling tree swallows adjacent to the Winston Thomas PCB site compared to those from a control (reference) site. PCB levels in bird eggs were also noted to be greater than 100 times those found in the eggs of birds from the control sites. Ecological effects from PCB and related compounds on avian species from the Great Lakes has been extensively documented (Gilberston, M. et al, Great Lakes Embryo, Mortality, Edema, Deformities Syndrome: GLEMDS in Colonial Fish Eating Birds, Similarity to Chick Edema Disease, J. of Toxicology and Environmental Health, Vol 33., #4, 1991)

In addition, as noted in the December 3, 1997 Ecological Risk Evaluation for Clear Creek by Dr. Mark Springer, previously submitted to the court, current PCB contaminant levels in Clear Creek fish would pose a risk to fish eating mammals such as river otters. Dr. Springer concluded that fish levels would need to be below 0.1 ppm PCB to avoid risks to other wildlife. Data collected to date from Clear Creek, Richland Creek, and Stouts Creek exceed the 0.1 ppm PCB value by approximately 10 fold.

Response to Groundwater Issues

On page 3, the last full paragraph of the CBS response states that "CBS conducted hourly monitoring of water levels in monitoring wells at the site from April 1993 to April 1994. During this monitoring period water levels during numerous storms were recorded and logged. These included storms during November 1993, when historic flooding occurred in the Midwest and seven inches of rain fell in Bloomington area in five days, and April 1994, when nearly five inches of rain fell in fourteen hours. This data indicates that the only area of the fill material subject to groundwater backflooding is the buried stream valley in the southeast portion of the site. While other areas of the existing fill may be wetted by direct surface infiltration or surface run on, this can be eliminated by the typical engineering controls EPA specifies for containment at such sites."

Although the site was instrumented by CBS from April 1993 through April 1994, the only full month that all systems appear to have operated properly was April 1994. Very little useful groundwater data were recorded during this one year period, because various parameters were

not measured at one time or another. Rainfall and water level data in monitoring wells were lacking most of the time. Furthermore, the CBS paragraph implies that the only area where fill material is subject to groundwater backflooding is the southeast corner of the site. This conclusion by CBS is based upon limited data. The highest measured groundwater levels in monitoring wells were recorded for the April 9-10, 1994 storm event, particularly in monitoring well 5A where the water level was recorded at an elevation of 782.1 feet. Enclosed in Attachment 5 is Plate 1 which shows contours on the bedrock surface as interpreted from test boring and monitoring well data, and the areas at the site that were likely wetted by groundwater backflooding during the April 1994 storm event. Clearly the southeast corner of the site was not the only area susceptible to backflooding during this storm event. Note on Plate 1 that there are two other areas beneath the waste where test boring data indicates the presence of depressions in the bedrock surface (possible sinkholes). Additional test boring data might identify other depressional areas under the waste that may be subject to backflooding.

The data collected by CBS for the April 1994 storm event are presented on Plate 2 (enclosed in Attachment 5). This data documents that the high water level in monitoring well 5A is in direct response to a precipitation event of about 2.9 inches on April 9, and 10, 1994. It is important to note that prior to this rainfall event, the soil was very wet owing to over an inch of rain during the previous 7 days and by over 0.75 inches of rain over the previous 5 days. This event is substantially less than a 10 year storm event, which would require 4.5 inches of precipitation in 24 hours. Therefore, the existing data show that storms substantially less than a 10 year event have the potential to backflood into the waste in more than one area of the site.

CBS includes the November 1993 storm event, shown in Attachment 5 as Plate 3, to suggest that even a 7 inch rainfall event will not result in groundwater backflooding of the site. This storm event illustrates the extreme complexity of the hydrologic conditions of the Neal's Landfill site. The 7 inch rainfall occurred over a period of six days (Plate 3) and produced three peaks in groundwater and surface water flow. No precipitation occurred during the nine days preceding this storm event which would result in very dry soil conditions in advance of the storm. The first peak occurred in response to a 1.06 inch rain (November 13) and apparently the rain stopped for a long enough period of time for groundwater and surface water flows to subside to near base level flow. The second peak occurred in response to a 2.34 inch rain (November 14) and the peak was sustained by a 1.57 inch rain (November 15). Only a trace of rain fell on November 16 and groundwater and surface water flows again subsided to near base level. The third peak occurred in response to a 1.90 inch rain on November 17. Because of the dry conditions preceding these rain events and the sporadic occurrence of rain, the groundwater at monitoring well 5A did not get as high as it did for the April 1994 storm event. The November 1993 event was essentially a series of 1 to a little over 2 inch rainfall events, not a seven inch event, and it was not a historic event at the site as implied by CBS.

Therefore, the most reliable data that exists for the site is from an April 1994 rain event of 2.86 inches, which resulted in a groundwater elevation of 782.1 feet at monitoring well 5A. No groundwater data from the site exists for other, more major, storm events that have occurred in

Bloomington area from 1993 through 1996, as shown on Plate 4 in Attachment 5. During this period of time, several storm events occurred of about three inches of rain or greater. One particular storm event of note is for April 29, 1996, when 3.65 inches of rain fell in a seven hour period and the combined storm event over three days resulted in a total of 4.15 inches of rain. This event was preceded by almost 5 inches of rain over the previous nine days. Other rainfall, as well as three other large storm events during the interval from April 19 to May 29, 1996, resulted in a total of 20.60 inches of precipitation in 40 days and 40 nights. It is not reasonable to assume that the 782.1 water level in monitoring well 5A at Neal's Landfill recorded on April 10, 1994 is the highest that might occur. It is most prudent to assume that this water level elevation has been exceeded in the past and will be exceeded in the future whenever precipitation exceeds the conditions documented for April 10, 1994.

Although surface water diversions around the site perimeter can control surface water flow onto the site, these diversions will have no affect on the subterranean flow through conduits under the site. Most of the water flowing through the subterranean system beneath the site comes from off-site. Furthermore, the soils and upper bedrock conditions (e.g. epikarst development) have not been characterized and cannot be fully characterized unless the bedrock surface is exposed for inspection. In addition to the possibility of waste backflooding into the waste, there is also the problem of saturating the underlying epikarst and the resultant sapping of soil from solution enlarged fractures, joints and bedding planes. Progressive sapping of soil from beneath the waste will allow collapse of overlying waste materials. The proposed CBS surface waster diversions will not control the movement of groundwater along the soil/bedrock interface or in the epikarst from off-site areas to the epikarst under the waste. To control this water, the diversions must be installed into the upper part of the bedrock to a level below the epikarst, or grout must be injected into the epikarstic bedrock around the perimeter of the site.

3. Response to Evaluating the Geologic and Geotechnical Feasibility for Consolidation of Waste at Neal's Landfill

To consolidate waste materials removed from other CBS sites in Bloomington, Indiana, CBS proposes on Page 4, Paragraph 5, to use a liner system that can bridge small voids. CBS states that it is not necessary to find and seal every small crack in the rock. The U.S. EPA disagrees. Without a full demonstration that sinkholes and waste are not in contact with groundwater beneath the site, the possibility of large voids being created from small voids cannot be dismissed. Capping the site will divert precipitation falling directly on the landfill and other surface water run on. Unless controls are implemented to prevent groundwater from flowing underneath the landfill and saturating voids, the possibility exists of creating large voids from small voids. Fluctuation of water levels within the epikarst and soil removal through existing solution features within the epikarst may create large voids from small voids. Absent such demonstration U.S. EPA cannot be assured that CBS proposal will provide a permanent cleanup solution that is protective of human health and the environment.

3.1 Response to Surface Geophysical Data Collection

The foremost question is whether the geophysical survey methods proposed can answer the critical questions about the location and size of karst features around and underneath the landfill. On Page 4, Paragraph 6, CBS proposes natural potential (also known as self-potential or streaming potential) and multiple-array resistivity as methods that will “detect those larger voids and the water that causes them.” On Page 5, Paragraph 1, CBS states that large voids in the bedrock underlying the site will be identified to assess overall interconnectedness of the karst system” CBS has correctly identified the problem as defining the karst system and its capacity for piping soil from beneath the landfill. If the landfill is to remain stable and the overlying “piggybacked” liner and fill are to retain their integrity, the solution channels must be identified and remedial measures (such as grouting or use of geotextiles) should be taken. However, serious questions remain regarding CBS’ heavy reliance on geophysics to accomplish these goals.

CBS, in its proposal, describes the concept of “piggybacking” of municipal landfills and describes its own proposal for Neal’s Landfill as consistent with that concept. CBS’ proposal, however, is not consistent with how the concept has been implemented in the past. “Piggybacking” has been used for municipal landfills. According to Joyce Muni of the Illinois EPA, who is an individual familiar with the examples given by CBS, a demonstration must be given that groundwater will not be contaminated beyond 100 feet from the site, over a 100 year period before piggybacking can be implemented. Clearly, this cannot be demonstrated at Neal’s Landfill because PCB releases are occurring and waste brought from the other PCB Bloomington sites contains both PCBs and RCRA waste.

“Natural potential” and “resistivity” methods are certainly appropriate methods for detection of karst features, and CBS should apply them in the areas around the landfill as a first step in identifying these features. However, using these methods on a landfill is problematic, and various CBS statements indicate why. On Page 2, Paragraph 2, while arguing against an effort to define the distribution of PCB contaminants, CBS states that containment is the presumptive remedy for the site because of “the heterogeneous nature of the material” and “the large volumes of material.” Landfills, particularly old, unregulated, municipal and industrial landfills, contain a wide variety of wastes with varying physical, chemical, and electrical properties. Neal’s Landfill has a large amount of such wastes that are unevenly distributed throughout. One soil boring log indicates over 25 feet of fill, and maps that are produced in the early 1980s show a highly variable thickness of fill. CBS admits this on Page 2, Paragraph 4, when it states that “there is no uniformity to the material to begin with.” This nonuniform accumulation of varied wastes will make meaningful interpretation of geophysical data very difficult, if not impossible using the methods proposed by CBS.

For example, it is unclear how geophysicists will differentiate between anomalies resulting from karst features and those resulting from capacitors, refrigerators, household garbage, and so on. All these waste items generate electrical potential by virtue of their interaction with surrounding

soils and other wastes. The degradation (decomposition, corrosion, and so on) of these items is the result of biological, chemical, and electrical processes that also produce electrical potential. As noted by Lange and Quinlan (1988), "electrical potential variations at the ground surface arise from a variety of sources, including buried conductive materials (natural and anthropogenic), thermal anomalies, fluid diffusion across lithologic boundaries, and biological processes." Another consideration is the streaming potential produced by fluids flowing through macropores in the soil and the large voids within a typical, older landfill. As a result of these factors, a truly "noisy" geophysical situation is created. EPA has identified this noise as a significant disadvantage of the natural potential method (EPA 1993). As CBS notes on Page 6, Paragraph 2, natural potential surveys have been used successfully "for mapping boundaries of the fill." Such surveys are useful for this application precisely because the waste produces an anomaly. However, CBS has not explained how these proposed methods will allow it to identify karst features buried beneath many feet of varied fill material. Lange and Kilty (1991) note that "meticulous data acquisition procedures and processing are required to resolve typical karst features from the surrounding electrical noise, *even in remote locations* [emphasis added]."

A further difficulty with the natural potential method is outlined by Erchul and Slifer (1987), who describe the effects from particle size in soils and in the solution channels as natural potential. They wonder if it would be possible to differentiate between seepage along the bedrock-soil interface and in an underlying solution channel, and they note that soil moisture has an effect on natural potential readings. Flow regimes within karst often change dramatically over short distances -- that is, from open- to diffuse-flow regimes and back again.

3.1.1 Response to Natural Streaming Potential

With regard to the applicability of the proposed geophysical survey methods, CBS is correct in applying them to the areas around the landfill, where the lack of overlying waste should make interpretation of the results not only possible but meaningful. These methods would also be useful for preliminary identification of larger features that might be carrying water to and from the areas around the fill. Beneath the landfill, however, where the real problem lies, the proposed methods would provide only a hint of where to start looking.

On Page 5, Paragraph 7, CBS states that "as groundwater moves, or streams, through the subsurface, it generates a natural electrical charge which is in contrast to the natural electrical charge (potential) of adjacent areas without moving groundwater." This statement may be accurate for areas with little or no interference from metallic debris, but the results of a natural potential survey conducted beneath Neal's Landfill will be only speculative, as buried metallic debris is present throughout the site.

On Page 6, Paragraph 3, CBS states that the natural potential survey will be used to locate active groundwater flow channels on the perimeter of the landfill where groundwater from elsewhere in the drainage basin may be flowing into the subsurface beneath the landfill. If this survey is

performed at the site, it should also be used to locate groundwater flow channels emanating directly from the site because these channels may convey contaminated groundwater.

Page 4, Paragraph 6, CBS has not defined the terms “large” and “small.” As CBS notes, landfill liners can bridge small voids, and it is not necessary to identify “every small crack in the rock.” CBS then states that the investigation will focus on finding the “larger voids.” But CBS has apparently not undertaken a preliminary engineering study to define how large a void will cause instability in the proposed vertical expansion. As described by Lange and Quinlan (1988), the natural potential was successfully used to identify a very large conduit (16 to 20 cubic feet per second) at depth, but it missed a smaller and yet significant conduit (1 to 2 cubic feet per second) nearby. In karst terrain, groundwater level fluctuation may cause small soil voids to quickly grow into large voids.

3.1.2 Response to Multiple Array Resistivity

It is likely that the heterogeneous nature of the fill material will make interpretation of resistivity survey data difficult. In a resistivity survey, whether it is a multiple-array survey or not, a current is introduced to the earth, and the conductivity or resistivity (they are inverse survey functions) of the intervening ground is measured. The electrical effect produced when the current encounters metal waste, capacitors, PCB-contaminated soil, perched water, household garbage, and so on in the landfill will be substantial. EPA describes noise as a significant problem with this method (EPA 1993). Again, the problem will be to differentiate the signals caused by the waste items from those caused by solution channels. Vertical profiling of the site will almost certainly be done using a variety of electrode spacings, but the wider the spacing, the lower the resolution, making it more difficult to identify individual features. CBS makes much of recent advances in resistivity survey technology. However, as CBS notes in Page 7, paragraph 1, and based upon the limited information provided by CBS, we cannot evaluate whether this new technology expands the applicability of the method. It is U.S. EPA’s understanding that this method is still limited to detecting resistivity anomalies and is subject to geophysical noise as would be found in a landfill. This would make interpretation of the data difficult.

On Page 7, Paragraph 2, CBS states that resistivity data will be used to locate relatively large voids in the underlying bedrock, potential sinkholes, and other karst features. Because the technology to be used relies on electrical current injection and voltage measurements, and because the multitude of metallic debris buried throughout the site can interfere with such measurements, the results of the survey will be only speculative.

3.1.3 Response to Ground Truth Quality Assurance and Quality Control Measures

On Page 7, Paragraph 4, CBS states that quality assurance/quality control (QA/QC) investigative activities will be conducted only on the perimeter of the landfill and not within the known limits of the landfill. This approach may result in a good correlation between the geophysical survey results and the borings drilled to investigate anomalies outside the landfill. However, geophysical

survey results will need to be confirmed using borings within the landfill because the problem of interference of buried debris with measurements that will be made by the geophysical surveys may be more significant beneath Neal's Landfill compared to areas around the landfill that are free of such debris. In addition, in Section 3.2.1, "Field Exploration Program," CBS proposes to install 15 borings to bedrock. These borings can be used for QA/QC purposes.

In addition, CBS proposes to "ground truth" the geophysical survey data using drilling and excavation. This approach is certainly appropriate, but the level of effort proposed by CBS seems small. Only four anomalies--two detected using each geophysical survey method--will be investigated using traditional drilling or trenching techniques, and these anomalies will only be in areas surrounding the landfill. Only areas around the landfill edge are proposed for further investigation. As CBS notes on Page 6, Paragraph 1, natural potential surveys are generally confirmed using drilling. CBS does not explain how such a limited drilling program could confirm the results of such a large geophysical survey. Based upon previous experience, a large "ground truthing" investigation would be required to verify the geophysical results. It is also unclear how anomalies defined inside the landfill footprint (with the attendant difficulties noted above) could be confirmed by drilling outside the footprint. In addition, QA/QC programs are generally designed to reflect the uncertainty associated with the method being checked: the less certain the method, the more QA/QC checks needed. These checks are usually expressed as a percentage of the entire data set; for example, 20 percent of all detected anomalies might be directly measured. However, CBS provides no rationale for its selection of such a small number of drillings or excavations, and no estimate of the precision of the geophysical tools to be used in locating the anomalies.

3.2 Response to Geotechnical Data Collection

On Page 7, Paragraph 5, CBS states that the primary objectives of geotechnical data collection are to evaluate soil and bedrock properties at the site. On Page 8, Paragraph 1, CBS states that the field exploration program will focus on native subsurface materials, not on the waste material, and that the heterogeneity of the waste material makes collection of useful data difficult if not impossible.

Section 3.2.1, "Field Exploration Program," and Section 3.2.2, "Geotechnical Laboratory Testing Program," do not propose to collect data that can be used to evaluate bedrock properties. Bedrock properties will need to be evaluated in order to assess stability in areas where large cavities exist near the bedrock surface. Knowledge of the bedrock properties will be useful in assessing the stability of the landfill after the addition of the new load. Wastes disposed of at the site include among other things, large items such as car parts, refrigerators, drums and so on, with large void spaces within the landfill. Placing the load of new wastes on top of this existing waste could cause these wastes to move laterally and/or settle. In addition, because of the heterogeneity of the buried wastes, it is possible that the load imposed by the wastes to be consolidated on Neal's Landfill will cause the underlying waste to settle, even though the native base soil and bedrock were proven competent and structurally stable. Settling of wastes under the existing landfill

cover system might jeopardize the integrity of the proposed landfill cell to be built on the landfill. As a result, after valuable time and resources have been spent designing and building the landfill cell, the landfill might well continue to be a source of PCB contamination and a threat to human health and the environment.

3.2.1 Response to Field Exploration Program

On Page 8, Paragraph 2, CBS states that the field exploration program will consist of drilling and sampling at about 15 locations to provide a statistically significant evaluation of geotechnical survey data. First, the text does not specify where drilling and sampling will take place. As discussed above, several of the proposed borings should be drilled within the landfill, both for "ground truthing" and for geotechnical property testing of base soils and underlying bedrock. Second, these drilling locations should be selected after the geophysical survey data are evaluated. Based on these data, more or less than 15 borings may be needed depending on the number of large voids identified. In addition, CBS should specify the number of samples from each boring location that will be used for geotechnical evaluation of soils and bedrock. Therefore, the field exploration program is inadequate as proposed because sufficient justification is not presented as to the number and location of borings.

3.2.2 Response to Geotechnical Laboratory Testing Program

In this section, CBS describes the geotechnical tests that will be performed on cohesive, fine-grained soils. It is unknown how the geotechnical properties, integrity, and structural stability of the bedrock will be evaluated, especially in areas where cavities are identified during the geophysical surveys. In addition, the number of samples to be tested at the geotechnical laboratory is missing but is critical information.

In conclusion, the geophysical and geotechnical programs put forth by CBS may provide some useful information, but to base a remedy decision on interpretations and unknowns such as subsidence is risky. The U.S. EPA continues to oppose this "piggybacking" approach. Our requirements as described in our initial submittal to you is the only sure way to ensure that PCB

and RCRA material from the other Bloomington sites can be disposed of at Nea's Landfill in a manner that is protective of public health and the environment.

Thank you again for the opportunity to submit our views to you and we look forward to discussing these issues with you.

Sincerely,

A handwritten signature in cursive script, appearing to read "Thomas Alcamo".

Thomas Alcamo
Chemical Engineer

Enclosures

cc: J. Cahn, CS-14J
S. Ellis, DOJ

References

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March 3, 1998

Judge Kennard Foster
U. S. District Court
Room 277, U. S. Courthouse
46 E. Ohio Street
Indianapolis, IN 46204

RE: Cause No. IP 83-9-C-D/F

Dear Judge Foster:

As the group primarily charged with promoting the health of the public in our county, the Monroe County Health Board is concerned with recent proposals, the effects of which would be to leave polychlorinated biphenyl (PCB) wastes in our area in landfills of dubious security.

We understand that you are charged with pursuing in an expedited way the "aims of the consent decree" signed in the early 80's by Westinghouse Corporation (now CBS) and governmental regulatory and municipal authorities involved. The aims of that agreement were the destruction or removal of materials contaminated with PCBs incidental to their past industrial use by Westinghouse. This seems to us the only reasonable course of action given the known persistence of PCBs in the environment and their toxicity (1). This requirement for destruction or removal of PCBs in the interests of human health extends to the dioxins and dibenzofurans derived from PCBs by low temperature incineration. Some of these are more powerful carcinogens than the PCBs themselves (2).

The Board opposes PCB removal or destruction actions that leave substantial amounts of contaminated materials on site or in existing, local landfills. Our opposition is based on the poor local terrain for landfill siting and the potential that bears for inevitable leakage. Release of PCBs to groundwater will have unpredictable but highly probable adverse health effects in the long term. We urge removal of contaminated material to a commercial out-of-state landfill.

We applaud your charge to speed the PCB removal or destruction process in Monroe County and your evident energy in pursuing that goal. At the same time we are concerned that haste will impel decisions that threaten the public health in the long term. Since decisions made in the near future will have far reaching effects we urge caution, patience and attention to the interests of the health of the present and the future population of our County and its natural resources.

For the Board, I am

Yours truly,

George Hegeman, Chair
Monroe County Health Board

cc: Monroe County Commissioners

1. Nicholson and Landrigan "Human Health Effects of Polychlorinated Biphenyls" In: Schecter, A., ed., (1994) *Dioxins and Health*, Plenum Press Inc., New York.

2. Schecter, A. and Olson, J. R. (1997) Cancer Risk Assessment Using Blood Dioxin Levels and Daily Dietary TEQ Intake in General Populations in Industrial and Nonindustrial Countries. *Chemosphere* 34:1569-1577.

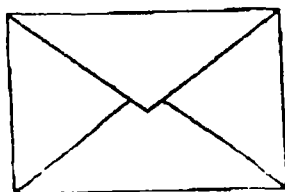
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Public Comment Sheet

Your input on the recommended cleanup plan for the Bennett's and Neal's Dump sites is important to U.S. EPA. Comments provided by the public are valuable in helping U.S. EPA select a final remedy for the site.

You may use the space below to write your comments, then fold and mail or fax your comments to (312) 353-1155. Comments must be postmarked on or before September 23, 1998. If you have questions, please contact Derrick Kimbrough at (312) 886-9749 or toll free at 1-800-621-8431. Comments may also be sent via E-mail to the following address: kimbrough.derrick@epa.gov

The Monroe County Health Department (MCHD) agrees with the U.S. EPA Preferred Alternatives for the Bennett's Dump and Neal's Dump Cleanup Plan. The MCHD supports the required total excavation of all PCB contaminated materials from all Conant Dams sites and the off-site disposal in an approved commercial facility in place of incineration at a local facility. The MCHD does not support any on-site consolidation plans now or in the future. The MCHD does not support partial excavation plans now or in the future. The MCHD does not support a local disposal facility in Bottom Road now or in the future. The MCHD strongly recommends total excavation and off-site disposal for all Conant Dams sites.



CBS CORPORATION MADE THIS MESS.

CBS CORPORATION CAN CLEANUP THIS MESS.

Name MONROE COUNTY HEALTH DEPARTMENT
Address 119 W. 2nd Street
City BLOOMINGTON
State INDIANA Zip 47404-3989

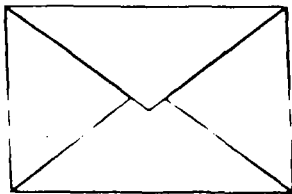

(9-11-98) STEVE CREEK
ADMINISTRATOR, MCHD

Mr. Kimbrough - My "private" comments on this issue. Thank you.

Your input on the recommended cleanup plan for the Bennett's and Neal's Dump sites is important to U.S. EPA. Comments provided by the public are valuable in helping U.S. EPA select a final remedy for the site.

You may use the space below to write your comments, then fold and mail or fax your comments to (312) 353-1155. Comments must be postmarked on or before September 23, 1998. If you have questions, please contact Derrick Kimbrough at (312) 886-9749 or toll free at 1-800-621-8431. Comments may also be sent via E-mail to the following address: kimbrough.derrick@epa.gov

After reviewing the factsheet, I would have to agree with the USEPA alternatives for Neal's Dump and Bennett's Dump. The total excavation of all contaminated materials and off-site disposal complies with evaluation criteria #1 and #2. The overall protection of human health and our environment should always be the #1 decision maker. Also, complying with all the regulatory requirements (i.e. RCRA), can the public be assured of public health, welfare and safety protections. The only "right" thing to do is total excavation at all the Contam sites and proper disposal at an approved commercial landfill. This community does not support local incineration, local landfill disposal or partial removal and consolidation. Let's get this contaminated material out of Monroe and Owen counties to a secured area. There are no secured areas in either counties. Do what is right - now and in the future at all CO sites.



Name Dennis Williamson

Public Comment Sheet

73
2/3/99

Your input on the recommended changes to the remedy for the Neal's Landfill site is important to U.S. EPA. Comments provided by the public are valuable in helping the U.S. EPA select the final alternative for the site.

You may use the space below to write your comments, then fold and mail to the address on the reverse side or fax your comments to Derrick Kimbrough, U.S. EPA Community Involvement Coordinator, at (312) 353-1155. Comments must be postmarked on or before January 20, 1999. Comments may also be sent via E-mail to the following address: kimbrough.derrick@epa.gov.

postmarked 2/3/99

DK

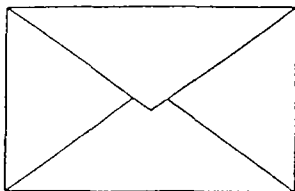
If you have questions about the comment period, contact Derrick Kimbrough at 312-886-9749 or toll free at 800-621-8431.

Here I am writing again trying to influence a bureaucracy that has repeatedly shown contempt for citizen input. Once again I remind you that the foundational fact gathering that would begin an organized scientific effort has not been started, that here in Monroe Co, Ind the effects of multiple routes of exposure to PCBs and dioxins by the environment, including humans, has not been studied but avoided for over 20 years.

Without these initial assessments we can't even measure the danger. This is what happens when big corporations, including the government, get involved in politics locally. A bunch of lordy ~~pro~~ professional nice guys gets together with our professional nice guys and reaches agreements and writes words that have little bearing on the physical dangers, the long term effects, the actual acquisition of facts.

Jesus, we'd have been a lot better off if you federalists had never come at all, but, I know, there are vast sums of involved and like eagles scenting carrion, you must descend. Oh well, someday you guys will call it done and then we'll have to actually study it and fix it by our selves.

Please Go home,



Name

More Haggerty

Affiliation

Citizen

Address

612 Summit

City

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Ind.

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Agency

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Illinois Indiana
Michigan Minnesota
Ohio Wisconsin



FACT SHEET

NEAL'S LANDFILL

Monroe County, Indiana February 1994



**Neal's Landfill
after 1983
removal
measures
completed**

NEAL'S LANDFILL

Neal's Landfill, an 18 acre landfill located in the southwestern portion of Monroe County on Highway 48, was used as an industrial and municipal waste landfill from 1950 to 1972. Westinghouse PCB-filled capacitors, transformers, and insulation material were deposited in Neal's Landfill during 1966 to 1967. Soil sampling results indicate PCB concentrations to 219,000 parts per million. PCBs were also found in ground and surface water at up to 9.7 parts per billion (ppb). The site was placed on the National Priorities List in September, 1983.

Westinghouse performed remedial measures in December, 1983 which included:

- Removing surface capacitors.
- Fencing the site perimeter.
- Installing a clay cap and in-situ erosion control measures.

- Conducting area well-user surveys and residential or monitoring well sampling.

Westinghouse constructed and began operation of a Spring Treatment System at Neal's Landfill. This was intended to treat PCB-contaminated water discharging from three on-site springs and one seep to Conard's Branch of Richland Creek. Westinghouse received a National Pollutant Discharge Elimination System (NPDES) permit for the Spring Treatment System on July 1, 1988. They began submitting bi-monthly monitoring reports to the state and EPA showing the system's PCB effluent concentrations. The NPDES permit limits PCB discharges to 1 ppb. Westinghouse is currently in compliance with the limitations, and treats PCB contaminated spring water to levels at or below 0.2 ppb. 320,000 cubic yards of material containing PCBs await final disposition at Neal's Landfill.