Public Meeting for U. S. Steel's Request to Modify the CAMU TSCA Approval

Meeting Minutes
March 3, 2011

The U. S. Steel Public Meeting was held at the Gary Public Library [Main Branch], Gary, Indiana on Thursday, March 3, 2011.

PRESENTERS:
Doug Boyea, U. S. Steel, Pittsburgh
Rick Menozzi, U. S. Steel, Pittsburgh
Mark Rupnow, U. S. Steel, Gary Works

FACILITATOR:
Ken Kastman, URS Corporation

ATTENDEES:
Jim Alexander, U. S. Steel, Gary Works
Danielle Barnett, IDEM
Dorreen Carey, City of Gary
Bob Casselberry, U. S. Steel, Pittsburgh
Thelma Corelius, CARE Partner
Lin Kaatz Chary, Indiana Toxics Action Project
Josh Dickey, National Park Service
Allen Evans, Safety-Kleen & Evans Co.
Fred Kinsey, City of Gary
Hala Kuss, IDEM
Gitte Laasby, Post-Tribune
Valerie Mack, CARE, Motivational Women
Ray Mitof, Bethlehem Steel
Mary Mulligan, City of Gary, Environmental Affairs
Kay Nelson, NWI Forum
Jim Nowacki, citizen of Gary
Tammy Ohl, U.S. EPA
Joe Pricener, U. S. Steel, Pittsburgh
Rufus Purnell, citizen of Gary
Shaik Quadri, URS Corporation
Charlotte Read, Save the Dunes
Anne Remek, IDEM
Jeff Rey, U. S. Steel, Gary Works
Chuck Rice, U. S. Steel, Pittsburgh
Brenda Scott Henry, GSWMD
Jim Smith, IDEM
Erik Sprenne, citizen of Gary
Shirley Stanford, City of Gary
Susanne Tomajko Seydel, URS Corp.
Jarque Turner, Care Partner
L. Turner, U. S. Steel "retiree"
Bowdeya Tweh, The Times
Silas Williwsny, GLIAA
Carl Wodrich, IDNR

Mr. Ken Kastman from URS Corporation (URS) introduced himself as the facilitator for the Public Meeting. He was asked by the United States Environmental Protection Agency (USEPA) and the United States Steel Corporation (U. S. Steel) to act as the facilitator for the public meeting, to keep the meeting on track and to allow for adequate time for a public comment period. The public meeting would run from 1:30 p.m. to 3:30 p.m. The format of the meeting allows for presentations by U. S. Steel for the first 90 minutes (from 1:30 p.m. to 3:00 p.m.), then the last half-hour is reserved for the formal public comment period (from 3:00 p.m. to 3:30 p.m.).

URS will take meeting minutes during the U. S. Steel presentation. These minutes will be available on the U. S. Steel website by April 1, 2011 (http://www.uss.com/corp/rcra/cite.asp.). There also is a court reporter present [from Boss Reporters, Merrillville, Indiana] who will document the comments made by

the public during the public comment period. The recorded comments will then be provided to USEPA for their consideration in approval of the proposed modifications to the TSCA Approval. Additionally, so that subjects can be clarified and questions answered, during the U. S. Steel presentation, there will be four or five stopping points where the audience may ask U. S. Steel questions directly related to its presentation. After the presentation, the general public, and anyone who would like to, can provide comments during the formal public comment period.

Mr. Kastman stated that when the time comes for the public comment period, the person who wishes to speak should stand up, state their name, and speak loudly so the court reporter can hear clearly and make and accurate record of their comment. He added that there will be no response from U. S. Steel to questions that are made during the public comment period. The time to ask questions to U. S. Steel is during the question and answer periods during the presentation. Mr. Kastman then turned the meeting over to Mr. Rick Menozzi.

Mr. Rick Menozzi introduced himself as the Director of Environmental Remediation from the U. S. Steel Environmental Affairs Department in Pittsburgh, Pennsylvania. He welcomed everyone to the meeting today and was happy with the turnout. He stated that he has spoken to the community in the past [during the Gary Work's quarterly Community Involvement Team Effort (CITE) meetings]. He has had an active role working on environmental issues at Gary Works since 1993 when U. S. Steel first began the process to clean up the Grand Calumet River (GCR). He stated that there has been an ongoing environmental awareness for the community around Gary Works, and U. S. Steel is always looking for ways to improve. He stated that U. S. Steel would spend 90 minutes explaining the work U. S. Steel has done related to its request for modification to the Toxic Substance Control Act (TSCA) approval, and also do its best to respond to questions from the audience. He added that after the presentation, there will be a formal public comment period from 3:00 p.m. to 3:30 p.m.

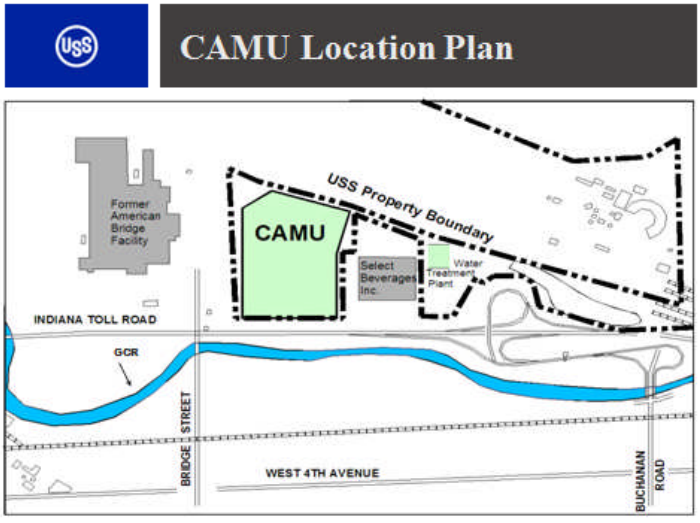
Mr. Menozzi introduced Mr. Doug Boyea and Mr. Mark Rupnow, who are Environmental Managers with the U. S. Steel Environmental Remediation Department. Mr. Boyea is located in the Pittsburgh office while Mr. Rupnow is located at Gary Works. Mr. Menozzi stated that he and Mr. Boyea would be providing the presentations today. He added that Ms. Tammy Ohl from USEPA [Region V] and Ms. Hala Kuss from the Indiana Department of Environmental Management (IDEM) also were here to answer questions from the public or the media. Mr. Menozzi stated that U. S. Steel would not take questions from the media during the presentation. The media should direct their questions to Mr. Chuck Rice from the U. S. Steel Pittsburgh Public Affairs Office after the public meeting concludes. Mr. Rice is here today and available to answer media questions.

Mr. Menozzi stated that there were a series of handouts in the back of the meeting room that would be helpful to those in attendance. The first handout (Attachment A) is the "MODIFIED APPROVAL TO DISPOSE POLYCHLORINATED BIPHENYLS (PCB)." This document provides the information which U. S. Steel has submitted to USEPA in its request to modify the TSCA Approval for the Corrective Action Management Unit (CAMU). This document highlights the proposed revisions to the language in the approved permit and is the basis for the public meeting today. In essence, U. S. Steel has proposed a modification to the TSCA Approval. The TSCA Approval was originally required to permit U. S. Steel to dispose of PCB-regulated GCR dredged sediments and subsequent remediation waste into CAMU Unit 1. Mr. Menozzi stated that he will discuss the history of the modification to the TSCA Approval, i.e., how all of this began and the U. S. Steel proposed modifications, so everyone has a clear understanding of what changes are being requested. This document is also available for public review in USEPA's repository in downtown Chicago, Illinois, as well as this Library [Gary Main Branch Library].

Mr. Menozzi stated the second handout available at the back of the room is a copy of the official, "Notice of the Public Meeting" as published in the local newspapers. There are yellow-highlighted sections of the text on the document which specify the timeframe for the public comment period and where the public comments are to be submitted. The public comment period runs for a period of 60 days; it started on February 15, 2011 [with the publication of the notice in the newspaper], and runs until April 15, 2011. Public comments should be sent to Ms. Tamara Ohl at USEPA at the address listed on the handout [i.e., 77 West Jackson Blvd. Mail Code LU-9J, Chicago, Illinois 60604], or individuals may provide verbal comments today during the public comment period from 3:00 p.m. to 3:30 p.m. If the public does not wish to make verbal comments today, U. S. Steel provided a template on to which the public could write its comments and send to the USEPA. U. S. Steel encourages the use of this form or similar form to send comments to USEPA. Ms. Ohl indicated that anyone can hand her comments after the meeting if they do not wish to publicly make a statement during the public comment period today. Mr. Menozzi added that the postcard announcement [available at the back of the room] also provides the USEPA address, plus other information such as the length of the comment period, and also the location of the two public repositories where the public can obtain further information. [A copy of the proposed TSCA Approval Modification is available at the Gary Public Library, Main Branch, 220 West 5th Avenue, Gary, Indiana, Monday through Thursday from 9:00 a.m. to 8:00 p.m., or Friday and Saturday from 9:00 a.m. to 5:00 p.m.; and at the USEPA Records Center, 7th Floor, 77 West Jackson Blvd., Chicago, Illinois, Monday through Friday from 8:00 a.m. to 4:00 p.m.] He encouraged the public to take a postcard if they need this information. Mr. Menozzi stated that there is sign-in sheet at the back of the room that the public can also use to add their names and addresses to, so that follow-up information may be sent to them, or if they wish to receive future announcements regarding the scheduling of CITE meetings for U. S. Steel Gary Works Corrective Action activities.

Mr. Menozzi also noted that the environmental world is full of acronyms. U. S. Steel looked at the presentation and tried to define some of the key words and phrases to aid in the understanding of the presentation. U. S. Steel provided another handout (available at the back of the room) with definitions and acronyms for the public to use during the presentation. [These definitions are included on page 25 of these meeting minutes.]

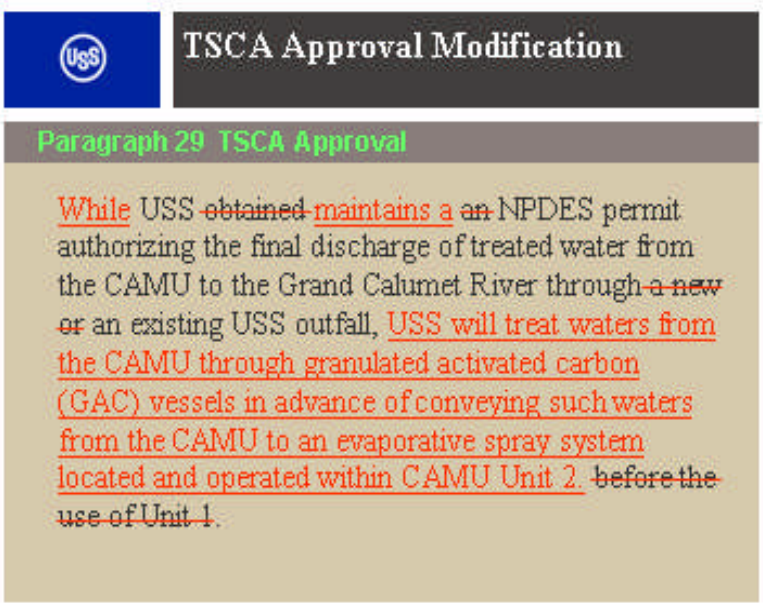
Mr. Menozzi began his presentation by showing the following map of the location of the CAMU and the surrounding features:



The CAMU is located between Bridge Street (to the west) and Buchanan Street (to the east) between the former America Bridge Facility and the former America Juice Facility. It is also located just north of the Indiana Toll Road and the GCR, and is on U. S. Steel property. U. S. Steel will talk about the results of the air monitoring conducted along Ellsworth Street (and around the CAMU) during the presentation. Air monitoring has been conducted since December 2002 and was enhanced during the operation of the CAMU Evaporative Spray Pilot Study. He noted that the Main Branch library (location of this Public Meeting) is approximately 2 miles east of the CAMU [but not on the map].

The CAMU is comprised of two separate units: 1) Unit 1, where TSCA-regulated material is placed and which is approximately 11 acres in size; and 2) Unit 2 where non-TSCA regulated material is placed and which is approximately 27 acres in size. TSCA-regulated material is waste with PCB concentrations greater than 50 parts per million (ppm). While both units of the CAMU can accept PCB waste, only Unit 1 of the CAMU is approved for containment of TSCA regulated wastes. U. S. Steel had placed dredged sediments from the GCR Remediation Project in the CAMU and subsequently, upon USEPA approval, U. S. Steel will place remediation wastes in the CAMU. During the GCR Remediation Project, a 5-mile stretch of the GCR was dredged using a hydraulic dredging process to remove impacted sediments and place them in the CAMU units. The CAMU was designed and built as a Resource Conservation and Recovery Act (RCRA) Subtitle C landfill, which is a landfill that can store hazardous materials/waste. What distinguishes the CAMU units is the type of material each can receive. Again, those materials with a PCB content greater than 50 ppm will be placed in Unit 1 while those materials with a PCB content less than 50 ppm will be placed in Unit 2.

Mr. Menozzi stated that the U. S. Steel proposed language for the modification of the TSCA Approval is defined in paragraphs 29 and 30 of the handout [i.e., MODIFIED APPROVAL TO DISPOSE POLYCHLORINATED BIPHENYLS (PCB)]. (See Attachment A.) To better inform the public as to the proposed modifications, U. S. Steel has edited the document to show how the original document would be changed. The edits to paragraph 29 are shown below:



The leachate in the CAMU which is the water drawn down through the sediments was previously treated through a project-specific Water Treatment Plant (WTP) which U. S. Steel built in conjunction with the CAMU, and which it received a National Pollutant Discharge Elimination System (NPDES) permit for discharge into the GCR. A NPDES permit condition, effective in year 3 of the 5 year permit, imposed an ammonia discharge limit. The CAMU WTP was not designed to treat the leachate adequately to allow for a permitted ammonia discharge into the GCR. U. S. Steel had looked at options to treat the leachate. What U. S. Steel investigated and then proposed is that it will treat leachate from the CAMU through granulated activated carbon (GAC) vessels in advance of the conveying the leachate to an evaporated spray system located and operated within CAMU Unit 2. This is the basis of the U. S. Steel request for the modification to the TSCA Approval. Mr. Menozzi stated that during a pilot operation, U. S. Steel was able to show that concentrations of chemicals of the effluent from the GAC vessels were at non-detection levels. U. S. Steel has proposed, through sampling and analysis, it will assure the operating efficiency of the GAC vessels.

Paragraph 30 of the TSCA Approval Modification was also edited to show how the original document would be changed. The edits to paragraph 30 are shown below:

TSCA Approval Modification

Paragraph 30 TSCA Approval

Should treated water from the CAMU be discharged into the Grand Calumet River through ~~a new or~~ an existing outfall, water monitoring must include a sampling point after the final treatment of the CAMU and in Units 1 and 2 of the CAMU and must follow the collection, testing and evaluation requirements specified in USS' NPDES permit for the CAMU. Should waters from the CAMU be managed through the spray evaporation system, USS will collect, test and evaluate the influent and effluent at the GAC units (weekly), to assure the operational efficiency of the GAC units. Supernatant water level, if present, must be monitored to show the maximum water elevation. Freeboard within the CAMU may not be less than 2.5 feet. Maximum water elevation must be recorded monthly and reported annually.

Mr. Menozzi explained that these are the only two paragraphs that U. S. Steel is requesting modifications to. These changes are the essence of the public meeting today. USEPA is accepting comments regarding those modifications and a decision will be rendered by USEPA toward approval of the proposed modifications in consideration of public comments. Mr. Boyea will go through the operation of evaporative spray system, the results of the pilot system conducted in 2010, and all the alternatives that U. S. Steel looked at before deciding upon the evaporative spray system. Mr. Boyea will provide examples of other evaporative spray systems being used around the county. Mr. Menozzi then asked if there were any questions about the presentation so far and the changes that U. S. Steel proposes to make to the permit.

Ms. Charlotte Read of Save the Dunes asked whether U. S. Steel will provide a summary of the other options that were investigated by U. S. Steel before the evaporative spray system was decided as the best

option to treat the leachate and maintain compliance with the WTP/NPDES permit. Mr. Menozzi said, yes. Mr. Boyea would discuss the various options that U. S. Steel evaluated before the evaporative spray system was selected.

Ms. Lin Kaatz Chary of the Indiana Toxics Action Project asked what chemicals specifically in the leachate would the GAC unit be treating. Mr. Menozzi stated the GAC would treat volatile organic compounds (VOCs) such as benzene, toluene, ethylbenzene, and xylene (BTEX) in the leachate. Ms. Kaatz Chary asked whether the GAC treated ammonia. Mr. Menozzi stated the GAC does not treat ammonia but Mr. Boyea will go over the ammonia issue later in the presentation and explain that the levels of ammonia in the leachate are low. Ms. Kaatz Chary wanted confirmation that when U. S. Steel is referring to non-detect levels of chemicals, it is referring only to BTEX compounds. Mr. Menozzi said yes. Ms. Kaatz Chary asked if there are other things in the leachate beside BTEX and ammonia. Mr. Menozzi stated that the chemical nature of the leachate would be presented in Mr. Boyea's portion of the presentation.

A member of the audience asked if the evaporative spray system was currently part of the permit. Mr. Menozzi said no. It is not part of the current permit. The audience member asked if the spray system was the only component of the modification. Mr. Menozzi said yes. He added that U. S. Steel ran a pilot spray system for one month in 2009, wherein it recognized that it needed to change the design of the system to include the GAC vessels to remove BTEX compounds. Then U. S. Steel ran the evaporative spray system again in 2010 for 90 days. The audience member asked if those results would be presented today. Mr. Menozzi said yes. Those results are part of the presentation today. A member of the audience asked if U. S. Steel will provide a history of arriving at its decision to use the spray system. Mr. Menozzi said yes. U. S. Steel will provide an overview of the other options it reviewed (qualitatively), and then how it came to advance the evaporative pilot spray system as the best solution.

Mr. Jim Nowacki asked if the slides showing text edits to the TSCA Approval document could be provided in the meeting minutes. He stated that the slides were much easier to read than the hardcopy document. Mr. Menozzi said yes; these will be included in the meeting minutes. [See pages 4 and 5.] Mr. Nowacki also asked for a copy of the slides. Mr. Menozzi stated that he does not have a copy of the slides. [Note: Copies of the slides were subsequently provided to those in attendance and two copies of the overhead/slides for the public meeting were sent to the Gary Main Branch Public Library repository on March 14, 2011.]

A member of the audience asked if the leachate from Unit 1 of the CAMU is treated while Unit 2 is not treated. Mr. Menozzi stated that U. S. Steel will remove water from Unit 1 to be treated in the GAC vessels before the leachate is sprayed in Unit 2. U. S. Steel is not removing leachate from Unit 2. Only leachate from Unit 1 will be removed, treated then conveyed to Unit 2 to be sprayed within Unit 2.

A member of the audience asked if Unit 1 is regulated and Unit 2 is not. Mr. Menozzi stated that because of the concentrations of PCBs in the waste placed in Unit 1, this unit falls under the TSCA permit. Unit 2 is also approved for waste disposal but under different conditions set forth by USEPA. The CAMU permit allows U. S. Steel to use the entire CAMU for remediation waste, but this public meeting is related to the handling of the leachate from Unit 1 which stores the PCB-regulated material greater than 50 ppm. He reiterated that the leachate that is being discussed today is leachate coming from Unit 1, treated through the GAC vessels, and then conveyed to Unit 2 where it is sprayed within Unit 2, from the floor of the CAMU.

A member of the audience asked if the modification U. S. Steel was requesting, was complying with the Clean Water Act (CWA). She also asked whether the spray would get back into the lake and whether the spray consisted of contaminated water. Mr. Menozzi stated that the water being sprayed is not going into the lake and is no longer going into the river. He added that the CWA does not control this operation because there is no discharge into the GCR (i.e., waters of the State of Indiana). All leachate is staying within Unit 2 of the CAMU which is on Gary Work's property. Mr. Menozzi stated that U. S. Steel monitors the groundwater around the CAMU as part of its compliance program. However, groundwater is not regulated under the CWA regulations. Groundwater from the CAMU is managed pursuant to the RCRA Corrective Action Order (USEPA).

A member of the audience asked if U. S. Steel would recycle the water or make it useful since the water will be contained within the U. S. Steel facility. Mr. Menozzi stated that the intention is for the water to evaporate since this is the basis of the system U. S. Steel is proposing. The spray system involves the evaporation and transpiration of the leachate within Unit 2 of the CAMU.

A member of the audience asked whether this modification involves issues with the Clean Air Act (CAA). Mr. Menozzi stated there is a component of the CAA associated with the Evaporative Spray System which is being handled by IDEM. U. S. Steel submitted documentation to IDEM last year and IDEM has looked at it. The audience member asked what types of particles are being released into the air. Mr. Menozzi stated there are no particles being released. What IDEM is looking at, is the potential for U. S. Steel to release BTEX and ammonia into the air. U. S. Steel has performed its assessment and it will show [later in the presentation] that there are none of these compounds being released into the air above risk based levels. The audience member continued by asking whether the spray system was assessed over the long-term or the short-term. Mr. Menozzi stated that the spray system was evaluated over a 30 day period in 2009 and a 90 day pilot program in 2010.

Mr. Kastman stated that all the questions being posed by the audience were sound and good but it would be helpful if the audience could listen to the remainder of the U. S. Steel presentation. Mr. Kastman had reviewed the presentation before the meeting and was aware of its contents. He believed that many of the questions being posed will likely be answered by listening to more of the presentation. He asked if the audience could hold some of its questions until U. S. Steel provides more detail. This would also ensure that there would be enough time at the end of the presentation for the public comment period. He suggested that Mr. Boyea continue the presentation.

Mr. Boyea described the evaporative spray sprinkler system. It is comprised of 16 sprinkler heads that could be purchased from a local lawn and garden store. Each one is capable of spraying 14.4 gallons per minute (gpm) and each head sprays at a radius 17.5 feet. The sprinklers were set 40 feet apart on the floor of the CAMU so there is no overlap of leachate spray and to maximize the potential for evaporation. The leachate that is being sprayed is pumped out of the leachate collection system from Unit 1. There it is directed through the GAC vessels which remove the organic constituents including VOCs and semivolatile organics (SVOCs). Mr. Boyea stated if organics such as PCBs were present (none are), these would also be removed by the GAC vessels. The leachate then goes through a pipe to the floor of CAMU Unit 2, where it is then sprayed into the air through the sprinkler heads.

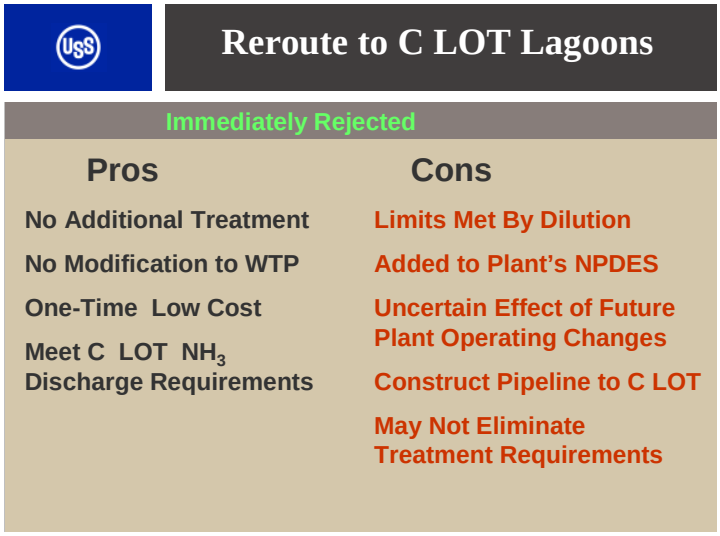
U. S. Steel samples the influent leachate to the GAC vessels and the effluent leachate from the GAC vessels. The effluent is collected every time U. S. Steel turns on the sprinklers. U. S. Steel also has continuous air monitoring on the berms of the CAMU. The air monitoring devices track of a number of different chemicals. Mr. Boyea asked if there were any questions on the physical set-up of the evaporative spray system.

A member of the audience asked what GAC was. Mr. Boyea stated that it was granulated activated carbon which absorbs organic materials such BTEX, VOCs, PCBs, etc. She also asked what the absorption rate was for this material. Mr. Boyea stated that it absorbs all of the organics in the leachate. The analytical results of the effluent from the GAC vessels confirm this because they show non-detect levels of all organic compounds. She then asked where the contaminants go that were captured by the GAC. Mr. Boyea stated that the contaminants remain absorbed to the activated carbon in the vessels. He added that periodically, U. S. Steel replaces the carbon with new activated carbon and the old carbon is placed in the CAMU. [It should be noted that per Mr. Boyea originally stated that the spent GAC was regenerated and disposed offsite; he later acknowledged that the spent GAC is place in the CAMU for disposal.] Mr. Boyea stated the GAC vessels are similar to the system in the CAMU WTP, which is a typical treatment technology for removal of organics in water/wastewater.

Ms. Read asked whether there was any absorption of contaminants into the soil. Mr. Boyea stated that the organics were absorbed by the GAC so none were being released in the spray, and therefore, none would be absorbed onto the soil. He stated that the spray falling on the ground has been helping with plant growth in the CAMU; water that is not used by plants eventually re-circulates back into the Unit 2 leachate collection system. A member of the audience asked if there was on-line monitoring of the GAC vessels to detect organics breakthrough. Mr. Boyea stated yes; there is an on-line detection system to check for breakthrough of organics.

Mr. Boyea began a discussion on all potential options evaluated by U. S. Steel in an attempt to find the best program to achieve compliance with the new ammonia limits set forth in the revised NPDES permit. The five options U. S. Steel evaluated included: 1) re-routing the leachate water to the C-LOT Lagoons; 2) zeolite adsorption (i.e., ion exchange-water softening); 3) air-stripping; 4) break point chlorination; and 5) evaporation and plant transpiration. He would explain the pros and cons of each of the options. The evaluation criteria included: feasibility, space limitations, cost, operating requirements, operator attention, chemical requirements, operational changes, discharge requirements, permitting requirements, environmental impacts, and health impacts.

In Option 1, U. S. Steel would re-route the leachate water to the C-LOT Lagoons which would send the leachate through an outfall associated with the Gary Works main plant NPDES permit and out to the GCR rather than through the CAMU outfall. This effort would require pumping it to the C-Lot Lagoons and the installation of a piping system. There would be a one-time cost for the installation of the piping but this option would allow U. S. Steel to meet the ammonia limits without any additional treatment or changes in the main plant WTP. In essence, the ammonia would have gone out to the GCR untreated but compliance would have been achieved by diluting the discharge rather than any form of treatment. U. S. Steel did not think this was the best way to go. Mr. Boyea also stated that there also was some uncertainty associated with the CAMU WTP NPDES permit. IDEM could decide to create an internal outfall at the existing WTP where limits would be imposed. If this were to have happened, U. S. Steel would have had to install a treatment system for the ammonia at the WTP also. Lastly, there were some uncertainties if Gary Works changed any of its operations. A change in plant operations could affect the discharge limits of the C-LOT Lagoons causing compliance problems with the added ammonia loading from the leachate water. A summary of pros and cons of Option 1 were summarized on the following slide:

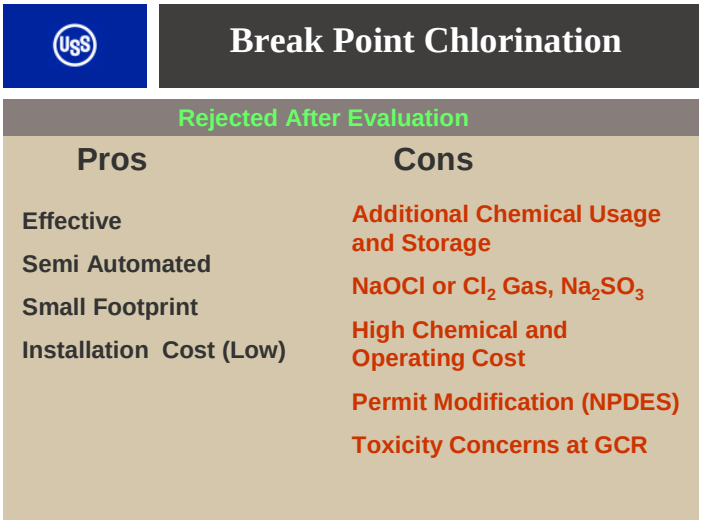


In Option 2, U. S. Steel would use zeolite adsorption to treat the water. Zeolite adsorption is an ion exchange treatment like a water-softening system. U. S. Steel quickly eliminated this system because there were no positive attributes to its use. It was not feasible in a number of different ways. One of the worst drawbacks was that U. S. Steel would be producing approximately 1,300 to 2,600 pounds of additional solid waste daily which would then have to be disposed in the CAMU. Also, treatment for ammonia would include the use of a brine solution (sodium chloride) to regenerate the zeolites. It did not make sense to take the ammonia out then put it back in [the CAMU]. This treatment process also requires an enormous amount of water and space. He stated that there also was the question of how the regeneration water would be disposed -- this would likely require a NPDES permit modification to allow discharges of the regeneration water to the GCR. Lastly, there is the potential to have an increase in the chloride content of the wastewater which may lead to a toxicity issue in the river for aquatic organisms. A summary of drawbacks for Option 2 was summarized on the following slide:

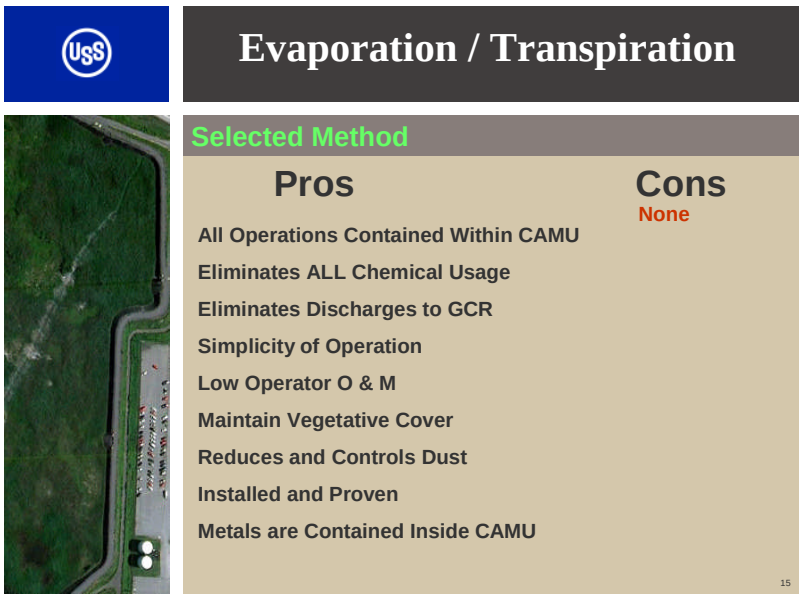
Option 3, or air stripping, appeared at first to be a strong candidate for ammonia removal. Its operating cost would be low; it was semi-automated; it did not require a permit modification, and it could fit well with the current WTP operations. However, its greatest drawback was that it would require the pH of the leachate to be treated multiple times to effectively treat the VOCs and ammonia. Mr. Boyea explained this process as follows: the pH of the leachate coming from the CAMU is relatively high due to the slag drainage layer beneath the landfill. Slag tends to raise the pH of water that moves through it. In order to be treated at the WTP, U. S. Steel would have to first lower the pH of the water so that it does not interfere with the polymers used for suspended solids treatment (clarifier system). Since U. S. Steel has a suspended solids NPDES discharge limit, it did not want to create another potential permit compliance issue. After the suspended solids are removed, the leachate goes through the GAC vessels. After this point, U. S. Steel would have to raise the pH back up to allow an air stripper to take out the ammonia. Once ammonia is removed, then U. S. Steel would have to lower the pH again to allow discharge to the GCR under the current NPDES permit conditions for pH. Mr. Boyea stated that U. S. Steel could not just run the leachate through the air stripper (before treatment and at a high pH) since air stripping would have taken out everything including VOCs and SVOCs. Therefore, this option was rejected because U. S. Steel would have to make multiple leachate pH adjustments. A summary of pros and cons of Option 3 was summarized on the following slide:

Option 4, or break point chlorination, was originally identified by U. S. Steel as the most likely system for treatment of ammonia. USS had informed IDEM that this was its treatment of choice early in the three-year compliance schedule since it would have been effective, semi-automated, and have had a low installation cost. However, it involves a series of chemical processes that could have resulted in toxicity concerns, for the GRC, and possible exceedances of the NPDES limit for chlorine [total, residual]. Mr. Boyea explained that installation of the break point chlorination equipment, storage and use of additional treatment chemicals, and the potential changes in effluent would also have required a modification to the existing permit. The drawbacks and the reason U. S. Steel rejected this option was that it requires a lot of chemicals [introduced into the system] to make it work. It would have required chlorine gas (a hazardous substance) or sodium hypochlorite solid to treat the ammonia. In this process, after ammonia is removed,

the chlorine in the leachate would then have to be removed by treatment with sodium sulfite. These were the greatest drawbacks: hazardous substances, pH adjustment, and additional chemical use to remove the chlorine. For these reasons, U. S. Steel rejected the use of point break chlorination. A summary of pros and cons of Option 4 was summarized on the following slide:



Option 5, evaporation and transpiration, appeared to be the best option. There were no apparent drawbacks. The positive things associated with this option were that all operations are contained within the CAMU; it eliminates all chemical usage (e.g., U. S. Steel currently uses poly-aluminum chloride as a polymer flocculent to remove solids; now there will be no need for this compound or hydrochloric acid to adjust the pH); water is pumped directly out of the leachate system into Unit 2 so there are no longer any discharges to the GCR so untreated potential contaminants such as metals, will remain in the CAMU; it maintains a good vegetative cover on the floor of the CAMU and thus prevents dusty conditions in and around the CAMU; it is simple to operate and does not require a lot of maintenance but yet is portable and can be easily moved around the floor of the CAMU; and lastly, it has been installed at other locations in the United States (U.S.) which Mr. Boyea would describe in a later part of the presentation. Mr. Boyea explained that few metals are found in the leachate. Only barium, lithium, and most likely iron (even though U. S. Steel does not test for iron) are present. There are no NPDES permit limits for metals discharging from the CAMU WTP; since there will no longer be a discharge, nothing [no contaminants, no chemicals] will be put in the river. U. S. Steel determined that the most cost effective and environmentally sound solution to achieve compliance was to eliminate all discharges to the GCR using the evaporation and transpiration option. Mr. Boyea summarized Option 5 on the following slide:



Mr. Boyea opened the discussion to questions. A member of the audience asked whether the evaporative spray system was safe for U. S. Steel employees and where the GAC waste goes once it is removed from the treatment vessels. Mr. Boyea said he mis-spoke earlier in the presentation. U. S. Steel does not send the GAC offsite for regeneration or disposal. Actually, U. S. Steel disposes of the used GAC (i.e., spent carbon) in the CAMU. The material is not recycled. Again, the spent carbon will be placed in the CAMU.

Mr. Kastman asked Mr. Boyea to define CAMU so the audience understands the term. Mr. Boyea stated that the acronym, "CAMU" means Corrective Action Management Unit. In other words, a CAMU is a landfill.

A member of the audience repeated her question and asked how safe the evaporative spray system is for U. S. Steel's employees. She also asked if the employees were properly trained. Mr. Boyea explained that U. S. Steel employees are required to wear hard hats, safety glasses, and steel-toed shoes for this area of the facility. The conditions they experience while working here are similar to workers at a water treatment plant. There is little chemical exposure. He added that the operators at the CAMU are also OSHA-certified plant operators. The audience member asked if the evaporative spray system has been operated anywhere else. Mr. Boyea stated that there are other similar systems in the United States. He would describe them in the next part of his presentation.

Ms. Kaatz Chary commented that the evaporative spray process proposed by U. S. Steel is actually a transfer of contamination from one medium to another, i.e., contamination in a liquid medium is being transferred into airborne contaminants. These media operate in different ways and it is possible that there are still some chemicals in the leachate spray even after it has gone through the carbon vessel. She added that leachate is being taken out of Unit 1 and is being sprayed in to Unit 2 – she believed that what U. S. Steel was saying is that since there are no PCBs in the Unit 1 spray then it becomes acceptable to spray the leachate in Unit 2. She felt that inevitably, there would be some airborne deposition of the chemicals from the leachate even if U. S. Steel has found no measurable concentrations at this time. Also, these airborne contaminants could be going north over U. S. Steel property, or going south, moving with

the wind direction. Mr. Boyea responded that at previous community meetings, he had explained that U. S. Steel would not operate the spray system on high wind days. Additionally, the sprinkler heads only allow the leachate spray to go no higher than 7 feet. Mr. Boyea stated that the leachate that is sprayed evaporates and the ammonia is dissipated, or some ammonia falls back into the CAMU to be used by plants. The water that does not evaporate or is not used by plants will percolate back into the leachate collection system and stay within the CAMU. The following photograph was shown at the meeting and shows the spray system in operation in the CAMU in spring 2010:

Evaporative Spray System in Unit 2 of the CAMU during the 2010 Pilot Study

An audience member asked if there are PCBs in Unit 1 but none in Unit 2. Mr. Boyea responded that there are PCBs in both units but Unit 1 is the storage area for wastes/sediments with PCB concentrations greater than 50 ppm. Unit 1 of the CAMU (landfill) was specifically built to handle the dredged sediments from the GCR that had PCB concentrations greater than 50 ppm. Unit 2 was used for dredged sediments with concentrations of PCBs less than 50 ppm. The 50 ppm limit is from an EPA regulation under the Toxic Substances Control Act [TSCA]. He added that during the GCR Sediment Remediation Project, U. S. Steel collected more than 150 samples from the river and tested them for PCBs. Seventy-seven of those samples contained measurable amounts of PCBs but only 10 samples contained PCBs greater than the TSCA limit of 50 ppm.

An audience member asked if the spent GAC will be placed in Unit 1 or Unit 2. Mr. Boyea stated that it would go in Unit 1. Since leachate is treated in the GAC vessels, the spent carbon would be placed in Unit 1. U. S. Steel has tested the leachate effluent from the GAC vessels (before it is sprayed in Unit 2) and found no PCBs in it. [See the archived meeting minutes on the U. S. Steel website (http://www.uss.com/corp/rcra/cite.asp) for the Community Involvement Team Effort Public Meeting.]

An audience member asked what the purpose of this work was if the PCBs are going to still remain in the CAMU. Mr. Boyea explained that the CAMU was built to contain the PCBs. The PCBs will remain there. The purpose of the evaporative spray system is for U. S. Steel to get rid of [manage] excess

leachate water collecting in the bottom of the CAMU. This could be done by first removing organic compounds (VOCs, SVOCs, and if present, PCBs) from the leachate using the GAC vessels then spraying the leachate so it would evaporate. The leachate would normally go through the CAMU's water treatment plant, but the NPDES limit for ammonia could not be met with the current system, so an alternate process had to be found to manage the leachate.

A member of the audience wanted verification that U. S. Steel's permit allows it to store PCB waste. Mr. Boyea confirmed that EPA provided U. S. Steel with a permit to build the CAMU [landfill] to contain and store the contaminated sediments that were dredged from the GCR. Dredging was completed back in the years 2003 through 2007. He stated that during that project almost 800,000 cubic yards (yd^3) of dredged sediments were placed in the CAMU.

Ms. Kaatz Chary stated that since the leachate is going through the GAC and capturing the majority of contaminants, and all that is left is water which is then evaporated, why is it even necessary for U. S. Steel to engage in the last step, i.e., spraying the leachate. She asked why can't the water just be filtered through the GAC and the water discharged under the current NPDES permit. Mr. Boyea responded by saying the new NPDES limit for ammonia in the leachate cannot be met using the current WTP design. That is why U. S. Steel evaluated many different options to treat the ammonia, which were explained earlier in the meeting. Most of those options had many drawbacks but the evaporative spray system would allow the water to evaporate and the ammonia to go into the atmosphere or to be used by plants, or cycled back into the CAMU's leachate collection system. The main reason U. S. Steel would like to spray the leachate is also to eliminate discharging ammonia to the GCR which could impact aquatic life. Using the evaporative spray system, U. S. Steel has completely stopped its discharge to the GCR and believes this will help [the overall condition of] the river.

A member of the audience asked if the driving force behind the use of this system is the change in the permitted amount for ammonia found in U. S. Steel's new NDPES permit. Mr. Boyea stated yes. When the NDPES permit for the CAMU WTP was renewed in 2006, there was a 3-year compliance schedule for ammonia. U. S. Steel was given both a concentration limit and a monthly loading limit that it had to meet. The audience member also asked whether there were no limits on ammonia [in the previous permit], and ammonia was just discharged directly into river. Mr. Boyea stated yes. Previously, there was no NPDES limit for ammonia for this outfall.

A member of the audience asked if the four options not selected were evaluated in tandem with the GAC/evaporative spray system. Mr. Boyea stated that U. S. Steel has always had a GAC system in place at the WTP. The evaporative spray system was selected strictly for managing the ammonia in the leachate.

Ms. Dorreen Carey with the City of Gary Environmental Department stated that taking Unit 1 leachate and spraying it into Unit 2 appears to her to be a potential failure to comply with the CAMU TSCA permit. She understands that U. S. Steel is stating that there are no contaminants, so this action is acceptable, but U. S. Steel is moving liquid waste material from one unit to another. U. S. Steel has stated [in the past] that they are surprised to see low levels of PCBs and they investigated to understand why the PCBs were not present. U. S. Steel stated that it thinks the underlying slag layer may be removing the PCBs from the leachate. Her greatest concern is that this whole process is from an uncontrolled source. The levels of contaminants leaching down in the CAMU over time may change and will likely vary depending upon what contaminants are in there and how they are breaking down. The CAMU wastes are essentially an unknown source. Her concern is that U. S. Steel really does not know, over time, what chemicals it is going to see in the leachate. Rather than use an untested process (a limited pilot

evaluation), she would like U. S. Steel to continue the Pilot Study and other evaluations. She restated this point again by saying that the City of Gary does not feel confident that the characterization period (i.e., 90 days in 2010) proves that the test results are representative of the leachate. Additionally, she felt that the mechanics and design of the spray system have been produced by U. S. Steel and not by a company which would have developed some [quality] assurance in the design.

Mr. Menozzi told Ms. Carey that he believed that her comments might be best left for the public comment period. He added that anyone in attendance could make a comment or submit written comments today at 3:00 pm. Mr. Kastman added that the public comment period was only 30 minutes away and it would be best if the presentation continued by U. S. Steel.

A member of the audience asked why a solution was not found to deal with ammonia so that U. S. Steel could still use the WTP. Mr. Boyea stated that the options U. S. Steel discussed in the earlier presentation represented a summary of all the potential solutions it had found to deal with this [ammonia] issue. U. S. Steel then evaluated these options, and developed the "pros" and "cons" for each. In the presentation today, U. S. Steel tried to provide a clear summary of the drawbacks and why many of the options would not work, or did not make a great deal of sense. The audience member asked if there weren't any other, better choices so that the community would not have had these concerns. Mr. Boyea stated that he would describe in the next presentation why the evaporative spray system was selected by U. S. Steel as the best of the options to deal with ammonia.

Mr. Boyea stated that during the Pilot Study of the evaporative spray system in 2010, U. S. Steel tested the GAC vessel influent and effluent each time the system began it three-day weekly operation. The weekly parameters U. S. Steel tested for are those on the NPDES permit including ammonia plus monthly testing of a large comprehensive group of VOCs, SVOCs and metals. The NPDES permit has limits for benzene, 2,4-dimethylphenol, acenaphthene, fluorene, naphthalene and phenanthrene. U. S. Steel sampled the influent to, and the effluent from the GAC vessels. The samples were analyzed by a laboratory using a 24-hr turnaround time. Mr. Boyea then showed a table summarizing the analytical results of the influent and effluent for the leachate.

Leachate Detections April 2010
VOCs, SVOCs (µg/l)

Parameter	GAC Influent	GAC Effluent
Benzene	2100	ND
Ethylbenzene	12	ND
Toluene	32	ND
Xylenes	32	ND
2,4 Dimethylphenol	130	ND
Acenaphthene	240	ND
Fluorene	ND	ND
Naphthalene	930	ND
Phenanthrene	ND	ND
3 & 4 Methylphenol	130	ND
Phenol	190	ND

The influent to the GAC vessels showed only detections of BTEX, 2,4-dimethylphenol, acenaphthene, and some naphthalene. There was no fluorene or phenanthrene detected. Two other compounds, 3&4-methylphenol and phenol were detected also. After treatment, none of these compounds had any measurable results [ND or non-detect]. A member of the audience asked what the color represented on the table. Mr. Boyea stated that the green denoted NPDES permit parameters; the yellow denoted parameters U. S. Steel added because they represent the BTEX group of compounds [which are similar chemically]; and the pink denoted compounds that showed up in the leachate during the comprehensive testing but are not part of the NPDES permit. He added that of that 100+ comprehensive list of chemicals, only 2 were positively detected, so U. S. Steel added them to the routine monitoring to track their presence. Ms. Kaatz Chary asked if U. S. Steel had a similar table for ammonia. Mr. Boyea said, yes, and he would show it shortly. Mr. Menozzi added that U. S. Steel would include these tables [exhibits] in the U. S. Steel meeting minutes that will be available on the U. S. Steel website by April 1, 2011.

A member of the audience asked who tested the samples. Mr. Boyea stated U. S. Steel uses a third party testing laboratory called, TestAmerica. They are located in Valparaiso, Indiana.

Mr. Boyea explained that the Pilot Study of the evaporative spray system ran for 90 days, from April to July 2010. Samples were collected three times on the day the three-day weekly operating cycle began. Influent and effluent samples were collected when the GAC system was first started in the morning, then collected in the middle of the day, and then collected when the spray system was shut down at the end of the day. The following table shows the data for eight weeks from April and May:

Pilot Analytical History (2010)

µg/l	4/7	4/13	4/26	5/4	5/10	5/19	5/25	6/2
Benzene	ND	ND	ND	ND	ND	ND	ND	7.5
Benzene	ND	ND	ND	ND	ND	ND	7.4	11
Benzene	ND	ND	ND	ND	ND	ND	10	14
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes	ND	ND	ND	ND	ND	ND	ND	ND
2,4 Dimethylphenol	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	ND	ND	ND	ND	ND	ND	ND	ND
Ammonia (mg/l)	24	23	20	20	19	17	15	16

ND-non-detect value

None of the BTEX compounds or the SVOCs were detected in the effluent from the GAC vessels during the first six weeks of operation. Ammonia was detected at a concentration of 24 milligram per liter (mg/l) initially, then it declined in concentration over the study period. On May 25, there were detections of benzene compounds which indicated there was breakthrough of the carbon [i.e., the carbon no longer had the ability to absorb/remove the organic compounds from the leachate]. The effluent continued to show

detections of benzene until the spent GAC was replaced on June 15, 2011. U. S. Steel did notice that 2,4-dimethylphenol was also detected before the GAC was replaced. U. S. Steel did continue to operate the system while the breakthrough was occurring, but it would show later in the presentation that air emissions monitoring conducted during this same time period, showed no levels of VOCs or SVOCs in the ambient air around the CAMU. The following table shows the results of the effluent data for the remaining 4 weeks the evaporative spray system operating in June:

Pilot Analytical History (2010)

µg/l	6/8	6/15	6/22	6/29
Benzene	160	28	ND	ND
Benzene	170	35	ND	ND
Benzene	170	43	ND	ND
Ethylbenzene	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND
Toluene	ND	ND	ND	ND
Toluene	ND	ND	ND	ND
Toluene	ND	ND	ND	ND
Xylenes	ND	ND	ND	ND
Xylenes	ND	ND	ND	ND
Xylenes	ND	ND	ND	ND
2,4 Dimethylphenol	19	11	ND	ND
Acenaphthene	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND
Naphthalene	ND	ND	ND	ND
Phenanthrene	ND	ND	ND	ND
Ammonia (mg/l)	14	15	14	12

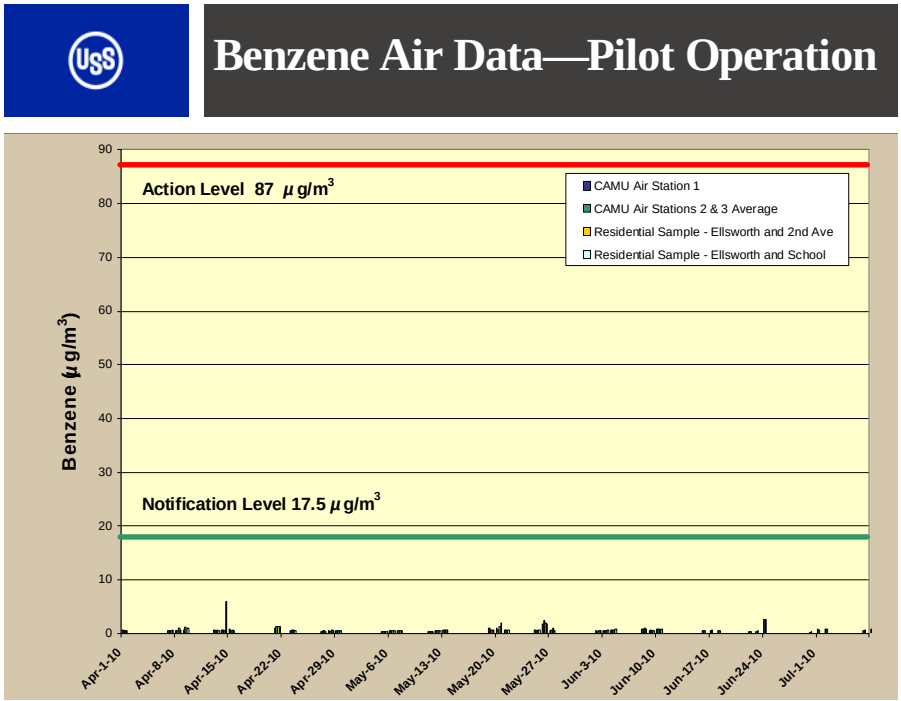
ND-non-detect value

Mr. Boyea explained that in the future operation of the evaporative spray system, U. S. Steel will prevent breakthrough of VOCs and SVOCs in the effluent by collecting samples from both of the GAC vessels; there are 2 vessels operating in tandem. U. S. Steel would collect samples from three locations, rather than two which were just the influent and effluent. A photograph of the two GAC vessels was shown:

Granulated Activated Carbon (GAC) Vessels during the 2010 Pilot Study

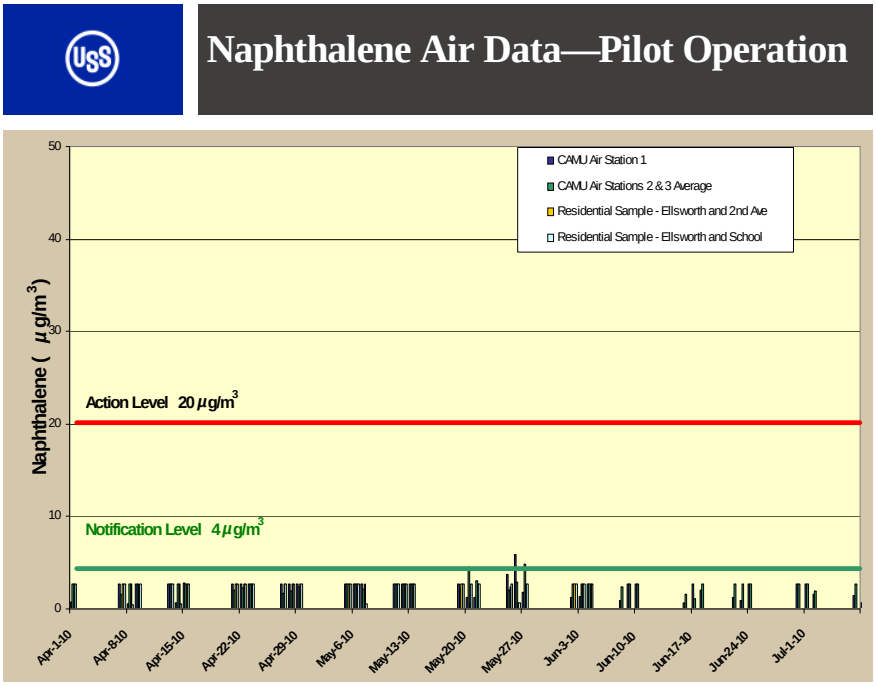
Mr. Boyea explained that for normal operations, U. S. Steel would collect the first sample from the influent into the first GAC vessel; the second sample would be collected coming out of the first GAC vessel before it goes into the second GAC vessel and; the third sample would be collected coming out of the second GAC vessel before it goes out to the evaporative spray system. By testing in between the two GAC vessels, U. S. Steel will know when the carbon is spent in the first vessel. When breakthrough occurs in the lead vessel, U. S. Steel will change the carbon immediately, so benzene and other organic compounds should never come out of the second vessel and go to the evaporative spray system.

Mr. Boyea stated that during the Pilot Study of the evaporative spray system in 2010, U. S. Steel tested the air emissions on a daily basis. These tests were conducted at three locations around the CAMU and two locations in the residential neighborhood. There were no benzene exceedances of the notification level or action level during the time the system was operating. There was one spike on April 14, 2010, for benzene but this result was below the notification level and was associated with a sample collected from the residential neighborhood. Since the wind was blowing from the south at that time, U. S. Steel believes it is a detection associated with something other than the CAMU since the CAMU is located north of the neighborhoods. The following graph of air testing results for benzene was shown:

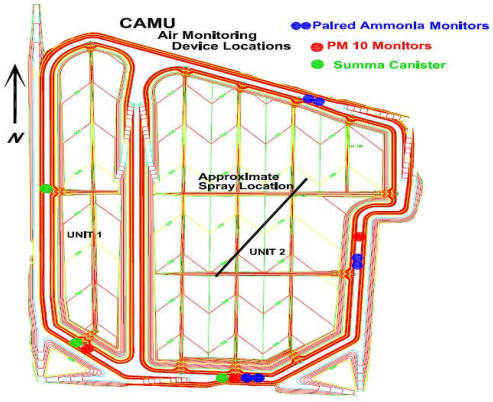


Mr. Boyea then provided a graph of the results of the air testing for naphthalene. There was one exceedance of the notification level on May 27, 2010. U. S. Steel looked at the effluent data from the GAC vessel and did not detect any naphthalene (see table on page 16) confirming this detection had nothing to do with the Pilot Study. Rather, during that same time, U. S. Steel was dewatering the sediments in Unit 1 and it was suspected that the collapse of the sediment mounds may have released some of the naphthalene from those solids.

Naphthalene was never detected in the effluent from the GAC vessels during the breakthrough that occurred from May 25 to June 15, 2011. The naphthalene detected in the air did not originate at the spray system. The following graph of air testing results for naphthalene was shown:



Mr. Boyea explained that U. S. Steel also conducted ammonia monitoring. There are three monitoring stations around the CAMU. Monitors are deployed in pairs: two are on the north berm and are named, N-1 and N-2; two are on the east berm and are named E-1 and E-2; and two are on the south berm, and are named S-1 and S-2. The following diagram shows the locations of the ammonia monitoring equipment (blue dots):



Mr. Boyea then showed a table of the various recommended ammonia limits provided by the regulatory community. (The acronyms for ATSDR, NIOSH, OSHA, and ACGIH are defined in the gray section of the chart below). Each of these arms of the government determines different ammonia limits such as

recommended exposure limits (REL), immediate dangerous to life and health (IDLH), permissible exposure limit (PEL) and threshold limit value (TLV). He explained that the minimum risk level under the ATSDR column will be used. The numbers used by these various agencies are in units of ppb. Therefore, the ACGIH TLV is 25,000 ppb (time-weighted average [TWA]) for ammonia. Since ammonia is measured in air, these values must be converted to micrograms per cubic meter ($\mu g/m^3$). As an example, the ACGIH value for TWA is 25,000 ppb while the concentration in air is 18,000 $\mu g/m^3$. For the ATSDR, the minimum risk level (MRL) would be 4,800 $\mu g/m^3$ (for acute exposure) and 100 $\mu g/m^3$ for chronic exposure.

Various Human Health Recommended Ammonia Exposure Limits

American Toxic Substance and Disease Registry MRL Minimum Risk Levels

Occupational Safety and Health Administration PEL Permissible Exposure Limit

National Institute for Occupational Safety and Health REL, IDLH Recommended Exposure Limits, Immediately Dangerous to Life or Health

American Conference of Government Industrial Hygienists TLV Threshold Limit Value

Units: PPB / $\mu g/m^3$ Ammonia

ATSDR MRL (AMOP)	NIOSH REL	NIOSH IDLH	OSHA PEL	ACGIH TLV
4,800 Acute 100 Chronic ($\mu g/m^3$)	25,000 TWA (18,000) 35,000 STEL (25,200)	300,000 216,000	35,000 TWA (25,200)	25,000 TWA (18,000) 35,000 STEL (25,200)

Actual Measured 2010 CAMU Air Concentrations ($\mu g/m^3$)

Days	E-1	N-1	S-1	Ave
6/1-6/4	4.65	3.76	4.86	4.42
6/7-6/10	7.20	4.27	4.97	5.48
6/16-6/18	10.51	10.01	NA	10.26
6/21-6/24	6.63	7.19	5.35	6.39
6/30-7/2	1.65	5.46	1.82	2.98

Mr. Boyea explained how the ammonia testing was completed during the Pilot Study. The evaporative spray system was run for 3 days per week. The ammonia monitors were deployed at the CAMU on Monday morning before the start of spraying. The monitors remained in place until Day 3, when the spray would be shut down and U. S. Steel would remove one monitor of each pair on the berms (i.e., N-1, E-1, and S-1). These would be sent out for analysis. The second monitor of each pair (e.g., N-2, E-2, and S-2) would remain in its location for the rest of the week (i.e., while the system was not running). On the following Monday, two new monitors would be placed at each location when the system was started. The second monitor would be sent out for analysis. Results from the monitors named N-1, E-1, and S-1 are for the days that U. S. Steel ran the spray system. Results from the monitors named N-2, E-2, and S-2 are for the days that U. S. Steel was not running the spray system.

As shown on the previous table, the result for E-1 (east berm) was only 4.65 $\mu g/m^3$. This is significantly below the ATSDR screening value of 100 $\mu g/m^3$ (chronic) or 4,800 $\mu g/m^3$ (acute).

Ms. Kaatz Chary stated that she objected to the ammonia chart used by U. S. Steel in this presentation. She said one cannot use occupational levels for the comparison. Some of these values shown are irrelevant to the discussions and they distort the information because they are so high in comparison to the test results. Mr. Boyea responded by saying U. S. Steel is comparing the results from the ammonia

monitors to the ASTDR value which is 4,800 $\mu g/m^3$. Ms. Kaatz Chary recommended that U. S. Steel change the slide so that the irrelevant information is removed and is clear to the audience.

A member of the audience asked if the values are ppm or ppb. Mr. Boyea said the values are units of ppb. Mr. Boyea then showed another table which included the daily, 3-day averages for the monitors associated with the time when the spray system was not operating (see below, right side). The values shown were for the period in June (during the Pilot Study period) until October 2010. No spraying occurred after the end of June 2010. U. S. Steel does not have data for the months of April and May 2010 because air monitors were not available from the supplier during this time period. The average background value for ammonia is less than the global average ammonia concentration of 4.3 $\mu g/m^3$ in nearly all cases, and less than the U.S. average concentration of 14 $\mu g/m^3$. Gary has pretty good air quality with regard to ammonia since the values measured at the CAMU are less than the U.S. average.

2010 CAMU Ammonia History $\mu g/m^3$

Days	E-1	N-1	S-1	Ave
6/1-6/4	4.65	3.76	4.86	4.42
6/7-6/10	7.20	4.27	4.97	5.48
6/16-6/18	10.51	10.01	NA	10.26
6/21-6/24	6.63	7.19	5.35	6.39
6/30-7/2	1.65	5.46	1.82	2.98

Month	E-1	N-1	S-1	Ave
July	2.04	1.68	4.79	2.84
August	2.98	2.47	2.86	2.77
September	1.80	0.80	1.73	1.44
October	2.72	2.89	2.20	2.60

Global Average Ammonia Concentration
4.32 $\mu g/m^3$

US Average Ammonia Concentration
14 $\mu g/m^3$ (Summerskill and Wopent, Univ Waterloo)

Weeks	E-2	N-2	S-2	Ave
6/1/10	4.73	2.96	2.14	3.28
6/7/10	3.13	2.60	3.19	2.70
6/16/10	3.46	4.35	.088	3.90
6/21/10	3.24	3.57	2.98	3.26
6/30/10	1.74	1.55	2.13	1.81
7/6/10	3.37	2.79	2.01	2.72
7/13/10	1.36	1.22	1.50	1.36
7/20/10	1.90	.074	1.88	1.51
7/27/10	0.00	0.00	0.07	0.02
8/3/10	2.76	2.65	6.49	2.96
8/10/10	0.44	0.15	0.74	0.44
8/17/10	1.02	0.36	1.49	0.96
8/24/10	1.82	2.26	2.25	2.11
8/31/10	1.49	1.43	1.63	1.52
9/10/10	0.62	0.88	0.82	0.77
9/13/10	1.90	1.79	1.94	1.88
9/21/10	1.69	0.80	1.91	1.47
9/28/10	5.04	4.68	1.51	3.74
10/5/10	1.52	0.24	1.06	0.94
10/12/10	10.15	1.89	1.43	4.49
10/19/10	2.22	1.89	2.85	2.32
10/26/10	1.34	1.14	1.06	1.18

Mr. Boyea stated that ammonia is produced both by industrial and agricultural activities. Approximately 90 percent comes from agriculture (e.g., cattle, sheep, poultry, swine, and fertilizer application). The other 10 percent comes from publicly-operated treatment works (POTWs), combustion, and refrigeration. Non-agricultural sources of ammonia come from vehicles (48.8%), composting (13.3%), refrigeration (9.2%), domestic sources (6.0%), POTWs (3.4%), and other sources.

A member of the audience asked if U. S. Steel recorded wind direction during the Pilot Study. Mr. Boyea said yes, and this information was evaluated along with the results. An audience member asked why there was an "NA" in the table. Mr. Boyea indicated that "NA" means not analyzed, and this was due to an instance when the ammonia filter was mis-handled and the lab could not read the result. A member of the audience stated that the levels seem so low--why is it that this [level of ammonia] could not be handled by the WTP. Mr. Boyea agrees that the numbers are low; however, there are two different media that are

being discussed: there is ammonia in water and there is ammonia in air. Ammonia that is going into the river is a toxicity issue for the community of animals (minnows, fish) that live in the water—it is not a human health issue. The ammonia limits given to U. S. Steel on the NPDES permit were designed to protect the ecology of the river. Conversely, the ammonia in the air (produced by the spray) would either be dissipated around the CAMU [not a human health issue at the levels detected] or fall back into the CAMU. The evaporative spray system provides a benefit by stopping all discharges to the river.

Mr. Menozzi stated that there was only 10 minutes left for the remainder of the presentation.

Mr. Boyea continued with his presentation by describing how other landfills across the U.S. manage their leachate. These ways include: 1) pumping recirculation; 2) evaporation which could include ponds, sprays, aeration basins or via a heat source; 3) irrigation basins; 4) treatment followed by discharge to a water body through an NPDES Permit; and 5) disposal either by transporting to an offsite facility or deep well injection.

There are multiple locations across the U.S. that are managing their leachate with spraying options. At a 634-acre landfill in Presque Isle, Maine, a company uses two leachate lagoon storage ponds with a center-pivot irrigation system to move leachate into an uncontained irrigation field approximately 21.7 acres in size. The landfill monitors the groundwater to ensure no contamination is transferred to the subsurface. A member of the audience asked if the landfill had a limit for its ammonia and whether it was near a residential neighborhood. Mr. Boyea stated that the ammonia discharge limit through their irrigation system is 10 milligrams per liter (mg/l (U. S. Steel's concentration in the leachate is at 12 mg/l. and yes; the landfill was located near the community.

Ms. Carey asked if this was a hazardous waste landfill. Mr. Boyea stated no; it was a municipal landfill. He added that for U. S. Steel, there are no hazardous constituents being sprayed because U. S. Steel is taking the organics our by passing the leachate through the GAC vessels. What remains in the leachate is ammonia.

Mr. Boyea then showed an example of a hazardous waste landfill (i.e., CAMU) called the West Contra Costa Landfill in Richmond, California. The landfill had operated as a 350-acre sanitary landfill since 1953, but then it began receiving hazardous materials and became a hazardous waste landfill. This portion of the landfill (28 acres) was closed by creating two CAMUs which permanently store and treat the hazardous waste. Similar to the U. S. Steel CAMU, one unit uses a leachate evaporation system and one system uses an evaporation pond. There is no treatment (e.g., GAC vessels) prior to placement in the evaporation pond.

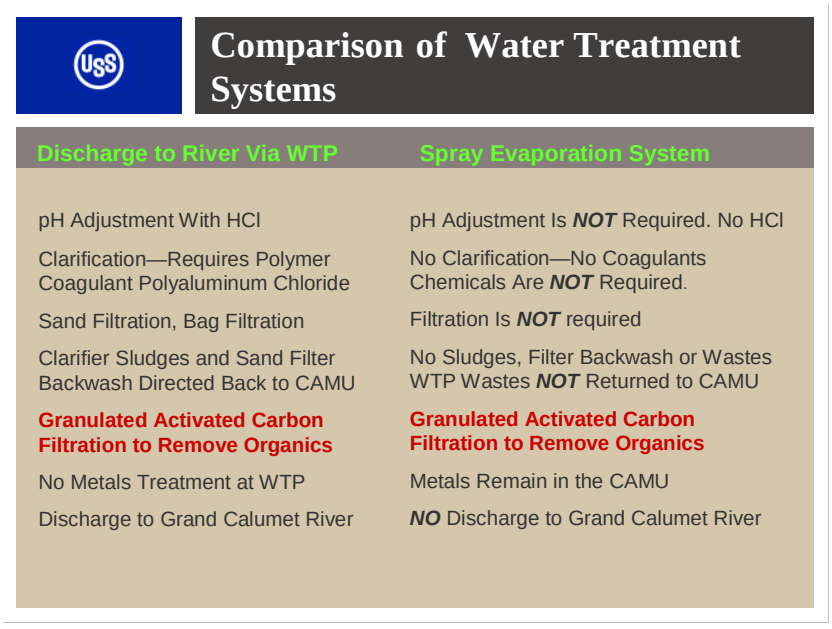
A second example of a hazardous waste landfill that uses leachate spraying is the Idaho National Engineering and Environmental Laboratory, located 50 miles west of Idaho Falls, Idaho. This landfill stores PCBs and low-level radioactive materials along with other hazardous wastes. Similar to the U. S. Steel CAMU, it has a two-cell design to store TSCA wastes. It has a total capacity of 510,000 yds^3. The leachate from the units is directed to evaporation ponds.

Lastly, Mr. Boyea described a fertilizer manufacturing site in central Florida, which housed a closed land fill for storage of waste gypsum. This site uses a leachate spray pond for stripping ammonia from the leachate. The ammonia stripped water is pumped back to the land fill and sprayed out onto the side-slopes through sprinkler heads for irrigation of the landfill exterior. A member of the audience asked where this site was located and if it monitors the air. Mr. Boyea said the site was in Bartow, Florida, but that the air was not monitored.

A member of the audience asked if all the solids in the CAMU will remain and if anything could be done with them. Mr. Boyea stated that the CAMU is a landfill designed and built to store the solids; all the solids will stay in the CAMU. Additionally, any waste (e.g., sludge, backwash material) produced during the operation of the CAMU WTP was also placed in the CAMU. The material will always stay in the CAMU and eventually the CAMU will be closed [no longer take remediation waste] and a cover placed on it.

Mr. Menozzi added that there has been a lot of questions about the CAMU. He described the CAMU as being comprised of two units (i.e., Unit 1 and Unit 2) that were designed and operated in accordance with hazardous waste regulations. The CAMU has 3 levels of protection beneath it to prevent the migration of contaminants into the groundwater. The first layer is a geosynthetic clay material with a very low permeable rate of $5x10^{-9}$ centimeters per second. Above this layer, is a 60-mil high density polyethylene layer, and above that is another 60-mil high density polyethylene layer -- so there are three levels of protection to prevent any infiltration of the material that is in the CAMU from reaching the groundwater. The CAMU's operation complies with all hazardous waste regulations. U. S. Steel monitors the groundwater and the air (e.g., volatiles, particulate matter) to ensure that there are no releases to the environment and to any residential receptor above risk based levels.

Mr. Boyea summarized the U. S. Steel presentation by providing the following slide which shows how U. S. Steel has historically been handling the leachate (using the CAMU WTP) and what it proposes to treat in the future using the Evaporative Spray System:



In summary, using the evaporative spray system, U. S. Steel will eliminate the use of all chemicals in the treatment of the leachate at the CAMU WTP and thus, no wastes from the WTP's operations will need to be taken to the CAMU nor will any new wasted be generated. U. S. Steel will also eliminate all discharges to the GCR. Using the spray system, it will continue the same treatment (GAC vessels) to remove VOCs and SVOC from the leachate so no contaminants will be emitted into the environment. The spray also has the added benefit of providing dust control at the CAMU and stimulated abundant plant

growth. U. S. Steel now has ammonia monitoring data to show there are only low-level background ammonia concentrations from the spray. All information and data shows the evaporative spray system to be an effective means of managing the leachate. Mr. Boyea showed two photographs: 1) the CAMU and the spray system in October 2009 during a short trial test; and 2) the CAMU after 3 months of spraying in spring 2010. In the first picture there is hardly any vegetation, while in the second picture, there is abundant plant growth. The photos are shown below:

Initial Trial of Spraying / October 2009 **Pilot Spray System / June 2010**

Ms. Kaatz Chary asked what Mr. Boyea meant by the floor of the CAMU. Mr. Boyea stated that it was the top of the sediments at the bottom of the landfill. The berms around the CAMU are 20 feet above the current floor of the CAMU.

Mr. Nowaki asked what volume of water U. S. Steel would spray during its operation. He thought the amounts shown in the U. S. Steel photographs appear to be "piddley" amounts while the photographs of the other facilities around the U.S. had larger quantities of water being sprayed. Mr. Boyea stated that U. S. Steel would be spraying a small amount—only 230 gallons per minute (maximum). This will be accomplished using 14 spray heads.

Mr. Kastman stated that U. S. Steel would take one last question before the comment period begins. A member of the audience asked when the CAMU was built and become operational. Mr. Menozzi stated it was built and began operating in 2003.

A member of the audience asked if the modifications proposed to the TSCA Approval will expire in 2015 and if U. S. Steel will have to reapply in 2015. Mr. Menozzi responded that the permit was renewed in 2010 and is a 5 year permit. Ms. Ohl stated yes, U. S. Steel would have to reapply in 2015. Mr. Kastman stated that it was time to begin the public comment period. This would last until 3:30 p.m. If a member of the audience has not signed in, please do so, so the court reporter has your name spelled properly for the record.

The U. S. Steel presentation of the public meeting was adjourned. The minutes for U. S. Steel's presentation (1:30 p.m. to 3:00 p.m.) were summarized by URS Corporation. The minutes for the public comment period (3:00 p.m. to 3:30 p.m.) were summarized by Boss Reporters. The minutes from the public comment period are available by contacting Ms. Ohl at USEPA, 77 West Jackson Blvd., Mail Code LU-9J, Chicago, Illinois 60604.

Acronyms and Definitions

ACGIH	American Conference of Government Industrial Hygienists
ATSDR	American Toxic Substance and Disease Registry
AMOP	Air Monitoring and Operations Plan
BTEX	Benzene, Toluene, Ethylbenzene and Xylenes
CAA	Clean Air Act
CWA	Clean Water Act
DOE	Department of Energy
GAC	Granulated Activated Carbon
GCR	Grand Calumet River
gpm	gallons per minute
IDEM	Indiana Department of Environmental Management
IDHL	Immediately Dangerous to Life or Health
μg/l	microgram per liter
mg/l	milligram per liter
MRL	Minimum Risk Levels
ND	non-detect [result]
NIOSH	National Institute for Occupational Safety and Health
NPDES	National Pollutant Discharge Elimination System
OSHA	Occupational Safety and Health Administration
PCB	polychlorinated biphenyls
PEL	Permissible Exposure Limit
PM_{10}	particulate matter
ppb	parts per billion
ppm	parts per million
RCRA	Resource Conservation and Recovery Act
REL	Recommended Exposure Limits
SVOC	semi-volatile organic compounds
TSCA	Toxic Substance Control Act
TLV	Threshold Limit Value
USEPA	U.S. Environmental Protection Agency
VOC	volatile organic compounds
WTP	Water Treatment Plant

CAMU	Corrective Action Management Unit: A disposal facility authorized under RCRA for remediation waste from Gary Works.
Leachate	All water that infiltrates through the disposed remediation wastes placed in the CAMU, including but not limited to water collected from the leachate collection system.
Remediation Waste	Wastes managed during investigation and remediation in accordance with RCRA corrective action order (1998).
TSCA Disposal	Placement of remediation wastes with PCB concentrations greater than 50 ppm in Unit 1 of the CAMU.
Unit 1	The part of the CAMU permitted to receive TSCA PCB remediation waste.
Unit 2	The part of the CAMU into which non-TSCA regulated remediation waste is placed.

$\mu g/m^3$	Concentration unit of a chemical in air expressed as micrograms per cubic meter.

Attachment A

Modified Approval to Dispose Polychlorinated Biphenyls

DRAFT

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5

IN THE MATTER OF:	)	MODIFIED APPROVAL TO DISPOSE POLYCHLORINATED BIPHENYLS (PCB)
United States Steel Corporation (Owner)	)	
The Gary Works Unit 1 of the Corrective Action Management Unit IND 005 444 062	)	**U. S. Steel DRAFT prepared for Public review/comment in advance of March 3, 2011 Public Meeting**
United States Steel Corporation - Gary Works, Lake County, Indiana	)	**see paragraphs 29 and 30 for proposed edits**

AUTHORITY

The United States Environmental Protection Agency (U.S. EPA) issues this modified Approval (Approval) in compliance with Section 6(e)(l) of the Toxic Substances Control Act (TSCA) of 1976, 15 U.S.C.§ 2605(e)(l), and the regulations governing polychlorinated biphenyls (PCB) at 40 C.F.R. § 761.61(c). The modification includes conditions that are consistent with disposal requirements present in Administrative Order on Consent, U.S. EPA Docket No. R8H-5-99-001, proceeding under Section 3008(h) of the Resource Conservation and Recovery Act (RCRA) of 1976, as amended, 42 U.S.C. § 6928(h).

EFFECTIVE DATE

The Approval is effective upon signature.

BACKGROUND

Section 6(e)(l)(A) of TSCA requires that U.S. EPA promulgate rules for the disposal of PCB. The rules implementing Section 6(e)(l)(A) were published in the Federal Register on February 17, 1978 (43 Fed. Reg. 7150), recodified in the Federal Register on May 6, 1982, (47 Fed. Reg. 19527), and modified effective August 28, 1998, as published in the Federal Register of June 29, 1998. Those rules require, among other things, that various types of PCB be disposed of in U.S. EPA-approved disposal facilities. The February 17, 1978, Federal Register notice also designated the Regional Administrator as the approval authority for PCB disposal facilities. Those rules were withdrawn with the publication and finalization of new rulemaking effective

August 28, 1998. Approval herein is based on the new rules at 40 C.F.R. § 761.61(c).

On June 5, 2001, U.S. EPA issued a revised delegation in response to a March 9, 2000 revision of U.S. EPA Headquarters Delegation 12-5. U.S. EPA Headquarters Delegation 12-5 was revised to recognize the PCB Disposal Amendments, which were published in the Federal Register on June 29, 1998, and then codified at 40 C.F.R. Parts 750 and 761. The revised U.S. EPA Headquarters delegation also encompasses the authority to approve or deny permit applications to operate PCB storage and disposal facilities, an authority which had been previously contained in Headquarters Delegation 12-21. Accordingly, on June 5, 2001, U.S. EPA delegated, among other things, the authority to approve or deny permit applications to operate PCB storage and disposal facilities from the Regional Administrator to the Director of the Waste, Pesticides and Toxics Division, now the Land and Chemicals Division.

On August 31, 1995, U.S. Steel Group (USS) submitted the initial application to U.S. EPA, Region 5, for approval to dispose of dredged material in Unit 1 of the Grand Calumet River Corrective Action Management Unit (CAMU), an on-site disposal sub-cell located in the SW 1/2 of Section 32, T37N, R8W, City of Gary, Lake County, Indiana. USS' mailing address at this facility is 1 North Broadway, Gary, Indiana, 46402. USS' mailing address is United States Steel Corporation, 600 Grant Street, Pittsburgh, Pennsylvania, 15219.

USS' application consisted of a number of documents, including but not limited to an August 31, 1995, Request for TSCA Disposal Approval and a December 1997 Permit Level Design Report, as amended. The application was approved subject to the conditions of the March 21, 2000 Approval and subject to completion by USS and acceptance by U.S. EPA of 14 items listed in Appendix A of the March 21, 2000, Approval.

Between March 21, 2000, and January 18, 2005, the 14 items listed in Appendix A of the March 21, 2000, Approval were completed by USS and accepted by U.S. EPA, leaving long term care described in finding 11 and financial assurance for closure/post closure care for maintenance, as described in conditions number 63 and 64 of the March 21, 2000 Approval, pending.

Since the March 21, 2000 Approval, USS has successfully completed construction of Unit 1, and removed approximately 828,833 cubic yards of sediment along 5 miles of the Grand Calumet River. USS dewatered the TSCA regulated dredged sediments exclusively in Unit 1.

MODIFICATIONS

This modified Approval is being issued in response to modifications requested by USS. First, on April 27, 2004, USS requested a modification in the groundwater monitoring program addressed at conditions 29, 34, and 35 of the March 21, 2000, TSCA Approval: specifically to reduce the frequency of groundwater monitoring for PCBto once per year. EPA's approval of this request is based on monitoring results. First, water quality and chemistry tests of the leak detection system show the CAMU has been proven to be sufficiently water-tight. The small volume of water removed from the leak detection system is seepage through the secondary membrane. This is expected and remains below the approved action leakage rate. Analysis of fluids found in the

leak detection system shows no detectible levels of PCB, and indicates that PCB are being retained in the sediments contained in the cell. Therefore, because of the design of the CAMU, its success in containing PCB, and the results of the leak detection monitoring, annual groundwater testing is sufficient. Results from the CAMU's monitoring programs were reported to EPA in quarterly reports and in the annual Use/Operations and Maintenance Report. EPA is consolidating the quarterly reporting requirements into the annual Use/Operations and Maintenance Plan.

USS requested a second modification on January 18, 2005, to use CAMU Units 1 and 2 to allow disposal of TSCA remediation waste from the USS Gary Works facility. Per public comment, USS subsequently amended that request and now seeks approval under TSCA to dispose of TSCA remediation waste from Gary Works into only Unit 1. USS also proposed to add air particulate monitoring to the CAMU's air monitoring program. Finally, USS requested a five year extension to this Approval pursuant to Condition 77 of this Approval.

This approval is based on EPA's finding that the CAMU has additional capacity that can be used for TSCA remediation wastes. Further, EPA finds that using Unit 1 to dispose of TSCA remediation waste will continue to present no unreasonable risk to human health and the environment. Monitoring results at the CAMU have not detected concentrations of PCB exceeding air notification or action levels. Monitoring data show that PCB have not been detected above reportable quantities in the CAMU's groundwater monitoring wells, or in its leachate or leak detection systems.

Although monitoring data show that the CAMU is operating effectively, EPA reserves the right to require additional action as necessary to protect human health and the environment, or if U.S. Steel fails to comply with this Approval. U.S. EPA hereby extends the term of this Approval five years to March 21, 2015, modifies the frequency of groundwater monitoring for PCB to once per year, and approves placement of TSCA remediation waste into Unit 1 of the CAMU. Placement of TSCA remediation waste is subject to the provisions of the modified approval. This modified Approval is effective as of the date of its signature.

DEFINITIONS

The following terms are defined for the purposes of this Approval. Any conflict between these definitions and those set forth under TSCA or the PCB regulations will be resolved in favor of TSCA or the PCB regulations. Any conflicts between the application, the attachments and the Approval will be resolved in favor of this modified Approval.

APPLICATION: The most current data, documents, licenses, permits, information and approval requests which USS submitted to U.S. EPA, regarding Unit 1 of the CAMU.

AQUIFER: A body of rock that is sufficiently permeable to conduct ground water and to yield economically significant quantities of water to wells and/or springs.

CAMU: Corrective Action Management Unit, a disposal facility authorized under the Resource Conservation and Recovery Act, RCRA designated for corrective action under RCRA § 3008(h), consisting of Unit 1 and Unit 2, two independent sub cells with independent leachate collection systems linked by a common leak detector and common overall water treatment system.

CHLORINATED ORGANICS: A broad range of chemicals containing chlorine. The group is effectively tested, for example, by U.S. EPA Test Method 8260, as amended.

DILUTION: Any process, other than TSCA authorized PCB destruction or removal that reduces the concentration of PCB in any media, leachate, supernatant water, or oily residue, for example, from a concentration greater than or equal to 50 ppm to less than 50 ppm.

ERODIBLE: An area which is subject to soil loss and reduced capacity which requires maintenance activities, especially an area identified by a model, such as the universal soil loss equation.

FACILITY: USS' property to which the Approval pertains.

GEOSYNTHETIC CLAY LINER (GCL): A composite liner having a hydraulic permeability equal to or less than $1x10^{-7}$ cm/sec made of strongly swelling clay sewn into a large flat composite mat of non-woven textile and clay which effectively blocks water seepage and substitutes for at least 3 feet of compacted soil liner material.

LEACHATE: All water that infiltrates through the disposed dredged sediments or remediation waste material including, but not necessarily limited to, water produced from the primary leachate control system of the CAMU.

MAJOR MODIFICATION: A material change in design or operation of the CAMU relating to TSCA regulations. Such changes include, but are not limited to, any change in the closure or disposal expiration dates, or changes in the scope of work of the Approval, such as increasing disposal capacity beyond the cubic yards removed from Transects 1 to 11 and Horizon 1 of Transect 17 and disposal of remediation waste from USS Gary Work's RCRA corrective action program.

MINOR MODIFICATION: A change in operations that is not a major modification such as changing the groundwater, leachate or air monitoring sites, the analytical methodology or waste acceptance procedures, or delivery of other licenses, permits or approvals in a timely fashion.

NON-TSCA MANAGED WASTEWATER: All leachate or PCB contact water that is a) tested, treated, or otherwise verified to contain less than three micrograms PCB per liter (approximately 3 ppb) and is released to a water treatment works, to navigable water, or managed in compliance with a NPDES permit issued under section 307(b) or 402 of the Clean Water Act on the basis of meeting numerical criteria for PCB concentrations; or b) which is deregulated by decontamination to less than or equal to 0.5 ppb PCB for unrestricted use.

NPDES PERMIT: A permit to discharge wastewater from the CAMU issued by U.S. EPA under Section 402(a) of the Clean Water Act (CWA), or by the State of Indiana under a permit program approved by the Administrator of U.S. EPA under Section 402(b) of the CWA.

PCB CONTACT WATER: Supernatant water produced from the CAMU that was in contact with PCB and has not been otherwise tested.

PPM: A unit of measure, parts per million, used to classify material under TSCA. This measure is based on use of an appropriate gravimetric analysis and reporting methodology. Reporting is based on a dry weight measurement for all solids and semi-solids down to a concentration of 0.5 percent solids content and on a wet weight measurement for fluids with solids content less than 0.5 percent. U.S. EPA SW-846 Method 8082, or equal methods approved by NPDES regulations are the preferred analytical methods for determinations.

REMEDIATION WASTE: Those wastes managed during investigation and remediation activities conducted by USS, at its Gary Works facility (IND 005 444 062), pursuant to U.S. EPA Corrective Action Order R8H-5-00-001 issued pursuant to Section 3008(h) of the Resource Conservation and Recovery Act. Remediation wastes defined under TSCA at 40 § C.F.R. 761.3. Remediation wastes are defined under RCRA at 40 § C.F.R. Part 264.552 as "all solid and hazardous wastes, and all media (including groundwater, surface water, soils, and sediments) and debris that contain listed hazardous wastes or that themselves exhibit a hazardous characteristic and are managed for implementing cleanup." Remediation wastes may originate only from within the facility boundary but may include waste managed in implementing RCRA Section 3008(h) for releases beyond the facility boundary.

TREATMENT: Removing or destroying PCB and changing the disposal status of a regulated waste.

TSCA DISPOSAL: Placement of remediation waste with PCB concentrations greater than 50 ppm in Unit 1 of the CAMU in accordance with a valid TSCA approval and subject to CAMU Use Procedures pursuant to the RCRA Corrective Action Order.

TSCA REGULATED SEDIMENTS: Sand, silt and other dredged material removed from the Grand Calumet River (or other water bodies governed by the facility RCRA Corrective Action Order) with PCB concentrations above 50 ppm.

TSCA PCB-CONTAMINATED LEACHATE: All underdrain/leachate collection system water with a PCB content of 50 ppm or greater.

UNIT 1: The part of the CAMU into which USS has and will place PCB remediation waste regulated under TSCA and/or RCRA.

VERIFIED OUTLIER: An unusual analytical value that meets all verification tests in the environmental monitoring plan.

FINDINGS

U.S. EPA considered the factors listed below in making the risk-based decision required under 40 C.F.R. § 761.61. U.S. EPA finds that disposal of PCB in Unit 1 under the terms of the Approval does not pose an unreasonable risk of injury to health or the environment.

1. USS has applied for approval to build and use Unit 1 for disposal of TSCA regulated sediments as part of a dedicated CAMU facility at SW 1/2 of Section 32, T37N, R8W, Lake County, Indiana.

2. The CAMU is located in a large sandy geological formation called the Calumet Aquifer located at the southern tip of Lake Michigan. From where the CAMU sits, the aquifer extends landward about 5 miles and lake-ward at least one mile.

3. The CAMU is located in an area of low to moderate relief which will minimize erosion and help prevent landslides or slumping.

4. Prominent hydrogeological characteristics of the Calumet Aquifer, as it relates to the specific area selected for Unit 1, include the following:

    i. the aquifer is the "upper aquifer" for the area selected and constitutes the surficial geological formation;

    ii. the area around the CAMU is susceptible to relatively rapid rainwater infiltration;

    iii. the water table rises relatively quickly during rain events until the infiltrated water flows back out to local surface drainage. While there is a groundwater hydraulic connection between the water table in the aquifer and surface water, the geomembranes and clay liners in the CAMU will prevent any groundwater connection with the waste. The only potential hydraulic connection between the wastes inside the CAMU and surface water is through return flow of dredged water which USS will treat and control to prevent unreasonable risk pursuant to 40 C.F.R. § 761.61(c) and the water quality standards of the CWA; and

    iv. although the CAMU is located in a large natural groundwater recharge area and the area selected for disposal is part of a widespread relatively level sandy aquifer, the area dedicated to the CAMU and the placement of the CAMU there will not reduce recharge or displace capacity in a way that will significantly diminish the amount of water held in the aquifer or significantly change its quality because:

        A. there are no special rainfall catchment characteristics at the area selected for disposal;

B. the selected area is not pristine. It is a former dredge spoils disposal area;

C. the groundwater is effectively isolated from groundwater users east, west and south by:

1. groundwater flow that does not move toward potential users in adjacent private property but moves south to inaccessible property below the Indiana Toll Road to the Grand Calumet River 400 feet south, and the Grand Calumet River itself, a hydrologic flow barrier that intercepts southward groundwater moving out from the area below the CAMU; and

2. the Grand Calumet River itself, a hydrologic flow barrier that intercepts southward groundwater moving out from the area below the CAMU.

D. groundwater cannot flow north to Lake Michigan. There is a groundwater flow divide 2000 feet north of the CAMU that effectively blocks flow northward; and

E. the aquifer has good recharge qualities with reports from the U.S. Geological Survey showing hydraulic velocities of 400-2300 ft per year.

v. according to the U.S. Geological Survey publication, Water-Resources Investigations Report 96-4126, Characterization of Fill Deposits in the Calumet Region of Northwestern Indiana and Northeastern Illinois, 1997, the Calumet Aquifer hydraulically connects all lakes, ponds and streams in the whole Calumet Region. However, artificial site improvements such as the laying down of geosynthetic clay mats, geosynthetic membranes and constructing of the CAMU, has hydraulically isolated the waste from the Calumet Aquifer.

5. Monitoring shows the bottom of the sloped landfill liner system is located approximately up to 4 feet above the historical high-water table.

6. TSCA leachate is contained by two layers of high density polyethylene geomembrane with a Geosynthetic Clay Liner (GCL) and a compound leachate collection system, as well as a large berm around the whole structure including an interior berm to isolate the TSCA waste.

7. The maximum elevation of the CAMU will be 644 feet above Mean Sea Level.

8. USS used accepted engineering practices to ensure that disposal structures holding water and remediation waste above ground level are secure against gradual and sudden failure and that the CAMU will not pose an unreasonable risk of injury to health or the environment.

9. U.S. EPA's review of the disposal process at the CAMU determined that the removal of water from the sediments did and will continue to minimize the risk for leakage from Unit 1.

10. Human or environmental exposure to PCB currently found in the main channel of the Grand Calumet or at the Gary Works facility will decrease significantly, as a result of PCB sediments having been dredged and placed in Unit 1.

11. Disposal in Unit 1 involves the following:

    i. disposing of all TSCA regulated sediments from transects 1 to 11 and horizon 1 of transect 17 of the Grand Calumet River;

    ii. disposing of all TSCA regulated sediments and remediation waste generated by corrective action investigation or remediation activities in a manner that will prevent damage to liners;

    iii. placing of TSCA regulated sediments or contaminated items from transect 1 to 11 and transect 17 in the CAMU in a manner that has prevented damage to liners;

    iv. removingof all debris from the river that may harm the liner, particularly pointed objects such as steel rods;

    v. inspecting the CAMU; conducting ambient air monitoring, and groundwater monitoring in the vicinity of the CAMU; and performing analysis of fluids extracted from the leachate collection system;

    vi. processing all leachate from the CAMU under a NPDES discharge permit, that includes carbon filtration, water clarification, or other equivalent processes;

    vii. ensuring closure/post-closure care of the CAMU and its support facilities, including access routes.

12. The CAMU's construction and hydrologic features found in the CAMU Design for Construction and Operation Permitting Level Report, as modified, are acceptable for PCB remediation waste disposal and do not pose an unreasonable risk of injury to health or the environment for the following reasons:

    i. USS's design for the CAMU separates the waste from local surface and groundwater tables by three artificial impermeable barriers to infiltration (one GCL and two 60 mil geomembranes), a compound leachate collection and removal system, waste dewatering, and perimeter dikes and berms. The two geosynthetic membranes are appropriate under TSCA for remediation waste placed within 50 feet of the groundwater table. The GCL and leachate

collection/dewatering system are appropriate additional features for waste that is liquid at the time of disposal but will be dewatered before closure;

ii. the GCL described in Appendix O of the December 1997 Permit Level Design report installed below the lowest impermeable membrane of the CAMU is a substitute for at least three feet of compacted high clay soil. The GCL is a clay mat hydraulic barrier. The GCL is a strongly swelling and water absorbing bentonite clay-filled fabric mat that is relatively impermeable to water and is designed as a backup system to protect the groundwater against any minor seepage that might make its way through the compound double geomembrane liner leachate control system during the relatively short period of time that the CAMU contains water;

iii. the CAMU is a passive dewatering and disposal cell effectively isolating PCB from the environment. If dredging takes place again and an oil layer develops in supernatant water, USS must perform oil skimming and water treatment operations to remove PCB from the supernatant water for destruction;

iv. adequate soil underlining and cover is provided to prevent excessive stress on the liner system and to prevent rupture;

v. each of two synthetic membrane liners is 60 mils thick;

vi. the CAMU has no uncontrolled outlet to surface water, and any discharge from the CAMU will be treated in accordance with the requirements of the NPDES permit;

vii. the CAMU is not located in the 100-year floodplain and is not on shore land;

viii. according to the authors of the U.S. Geological Survey publication, Water Resources Investigations Report 96-4126, Characterization of Fill Deposits in the Calumet Region of Northwestern Indiana and Northeastern Illinois, 1997, the CAMU rests directly upon a regional sandy aquifer that is hydraulically connected to nearby surface water. The TSCA regulated waste disposed of in the CAMU is and will be contained and isolated from the sandy aquifer and surface water by two 60 mil synthetic membrane liners, a GCL and a pumped leachate removal and leak detection system and large berms. Thus, under TSCA, there will be no hydraulic connection between the waste placed in the CAMU and the groundwater below the CAMU;

ix. the CAMU has groundwater, ambient air and leachate collection and treatment systems monitoring;

x. the CAMU is designed and operated with safety features which act to prevent flooding, releases, or spills to water, soils, or other surfaces, as specified in the

Conditions of Approval;

xi. the liner material has been tested for leachate compatibility and only leachate compatible liners have been used;

xii. Unit 1's leak detector is functioning and results show that all wastes continue to be isolated from the environment as designed;

xiv. the existing dewatered waste and the cell walls are stable;

xv. the cell has sufficient strength and capacity for new waste either in a wet or a dry form; and

xvi. monitoring, use and maintenance of the facility is being revised to cover both dry and wet use.

CONDITIONS OF APPROVAL

SITE LOCATION

13. USS may dispose of TSCA regulated sediments and remediation waste in Unit 1 of the Gary Works CAMU located in the SW 1/2 of Section 32, T37N, R8W, City of Gary, Lake County, Indiana.

SCOPE OF WORK

14. USS has disposed, in Unit 1, all the TSCA regulated sediments dredged from transects 1-11 and horizon 1 of transect 17 of the Grand Calumet River and may dispose, subject to EPA approval, TSCA remediation wastes managed during the investigation and remedial activities of corrective action, under the RCRA Section 3008(h) Order, Docket Number R8H-5-99-001.

15. USS may place and dewater TSCA regulated sediments or TSCA remediation waste in Unit 1 of the CAMU subject to CAMU requirements. All water that has been in contact with PCB and is discharged from the CAMU must be managed and treated under a NPDES permit.

16. USS may place and dewater TSCA regulated sediments or non-TSCA regulated remediation waste in Unit 1 or non-TSCA regulated sediments or remediation wastes into Unit 2 of the CAMU subject to CAMU requirements. However, USS may not treat the sediments or water produced from the TSCA regulated sediments to declassify it under TSCA. All water that has been in contact with PCB and which is discharged from the CAMU must be managed and treated under a NPDES permit.

COMMENCEMENT/CONTINUATION

17. USS has, and must continue to use, the security measures described in the CAMU Operations and Maintenance Plan, Appendix A, Item 2, to protect against vandalism and unauthorized waste placements.

18. USS may not dispose of PCB in Unit 1 unless USS meets all the conditions of the Approval, submits all additional information listed in Appendix A to U.S. EPA and receives approval for each document listed.

19. The CAMU must continue to meet operational and maintenance specifications in the Operation and Maintenance Plan, Appendix A, Item 2 as updated in accordance with the provisions of the modified TSCA Approval.

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WASTE PLACEMENT

20. Subject to waste compatibility requirements provided below, U.S. EPA approves the placing of all TSCA regulated sediments and remediation waste in Unit 1 provided that the cell is dewatered so that the CAMU has mechanical strength to support the final cover; slopes and overlying waste do not exceed design elevation 644 feet above mean sea level (MSL) (see Appendix A, Settlement Analysis of the Closure Post-Closure Plan); remediation waste is placed without damaging geomembranes or leachate collection systems, causing excessive settlement, slope failure, loss of fluid integrity, or any other failure of the CAMU.

    USS may not place PCB waste in the CAMU if it is incompatible with any waste, or the geomembrane or (GCL), as specified in the CAMU Construction Operation Level Design Report and the Operation and Maintenance Plan, Appendix A, Item 2, as updated in accordance with the provisions of the TSCA Approval.

21. Waste manifests are not required for disposal of regulated sediments or remediation waste into the CAMU, however system has been set up to record and retain the information listed in Attachment 1 of the March 23, 2006 RCRA Use Procedures Authorization (See Appendix B).

22. USS must review the leachate compatibility testing, completed to date, for the GCL and the geosynthetic membrane liners and geotextiles and confirm compatibility with U.S. EPA prior to placement of additional waste into the CAMU.

LEAK DETECTION SYSTEM WATER, PCB CONTACT WATER AND LEACHATE FOR DISCHARGE AND DISPOSAL

23. USS may not avoid any TSCA requirement for a specified PCB concentration by diluting wastes.

24. USS must comply with the following requirements:

i. leak detection water, contact water and/or leachate whose PCB content is equal to or greater than 50 ppm PCB is TSCA waste and must be treated or disposed of in accordance with TSCA and the Approval. The final disposal method, volumes, concentrations, disposal destination and pounds of PCB destroyed or leaving the site must be reported for any TSCA waste, water or leachate exceeding 50 ppm PCB that leaves the CAMU;

ii. leak detection water, contact water and/or leachate with PCB concentrations at 3 ppb up to, but not including, 50 ppm is TSCA reportable material that must be managed in accordance with a federal or State NPDES permit. The volume, PCB concentration and final disposal destination of this material must be included in USS' TSCA Annual Report;

iii. In accordance with 40 CFR §761.79 , leak detection water, contact water and/or leachate with a PCB concentration of less than 3 ppb may be a) discharged to a federally owned, publicly owned, or privately owned device or system used to treat (including recycle and reclaim) either domestic sewage or a combination of domestic sewage and industrial waste of a liquid nature or b) discharged to navigable waters;

iv. USS must apply for Approval under TSCA for any process that reduces the concentration of PCB in any media from a concentration greater than or equal to 50 ppm to less than 50 ppm.

25. If leak detection water, PCB contact water or leachate from the CAMU with a PCB concentration of less than or equal to 0.50 ppb meets appropriate State and local requirements, use is unrestricted.

26. For water from the CAMU that is less than 3.0 ppb PCB, USS may fulfill requirements for discharging to a treatment works or waters of the United States by complying with an NPDES permit.

LEAK DETECTION WATER, CONTACT WATER AND LEACHATE MONITORING

27. USS must determine the volume of water production from the leak detection system of the CAMU before it is mixed with any other flow.

28. USS must monitor all leak detection collection sumps as follows:

i. PCB – semiannually

ii. pH – monthly or as per NPDES permit

iii. specific conductance - monthly or as per NPDES permit

iv. chlorinated organics – semiannually

v. volume of water produced – monthly

29. While USS maintains a NPDES permit authorizing the final discharge of treated water from the CAMU to the Grand Calumet River through an existing USS outfall, USS will treat waters from the CAMU through granulated activated carbon (GAC) vessels in advance of conveying such waters from the CAMU to an evaporative spray system located and operated within CAMU Unit 2.

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30. Should treated water from the CAMU be discharged into the Grand Calumet River through an existing outfall, water monitoring must include a sampling point after the final treatment of the CAMU and in Units 1 and 2 of the CAMU and must follow the collection, testing and evaluation requirements specified in USS' NPDES permit for the CAMU. Should waters from the CAMU be managed through the spray evaporation system, USS will collect, test and evaluate the influent and effluent at the GAC units (weekly), to assure the operational efficiency of the GAC units. Supernatant water level, if present, must be monitored to show the maximum water elevation. Freeboard within the CAMU may not be less than 2.5 feet. Maximum water elevation must be recorded monthly and reported annually.

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GROUND WATER MONITORING

31. USS must monitor the groundwater annually according to the amended version of CAMU Groundwater Monitoring Plan. Monitoring must include the following wells, or other locations as approved by U.S. EPA:

i. MW01R
ii. MW02R
iii. MW04
iv. MW05
v. MW06
vi. MW07
vii. MW08
viii. MW09

32. USS must sample and analyze groundwater annually for:

i. PCB
ii. pH

iii. specific conductance

iv. chlorinated organics

33. USS must maintain the layout of monitoring wells MW-01R, 02R, 04, 05, 06, 07, 08, 09 and piezometric wells P01R, P 05, P06, P07, P08, and P09.

34. USS must not purge or otherwise disturb wells used to measure water level elevations around the CAMU prior to obtaining groundwater elevation measurements.

SURFACES, FILTER MEDIA, CLARIFIED SOLIDS AND DISPOSAL OR SPILL CLEANUP

35. USS must follow the approved Spill Prevention and Control and Countermeasures Plan, and the TSCA Spill Cleanup Policy. Any spill cleanup material may be disposed ofin Unit 1.

36. USS may dispose of solids from clarifiers used to treat water from the CAMU into Unit 1.

37. Filter media that has been in contact with PCB must be disposed of in a TSCA regulated facility such as Unit 1 or in accordance with 40 C.F.R. § 761.79(g) (l).

AMBIENT AIR MONITORING

38. USS must follow the air monitoring sampling frequency, location, and ~~results~~ procedures specified in the Air Monitoring & Operations Plan as modified (see Appendix A).

39. The Air Monitoring & Operations Plan must be updated to include particulate monitoring, and approved by U.S. EPA before USS uses the CAMU for new disposal operations.

40. Other air sampling plans may augment these requirements if such plans are more stringent.

FLOOD PROTECTION

41. The CAMU must not be in the 100-year flood plain. If the CAMU is ever found to be in the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map 100-year flood plain, USS must remove the waste or protect it by a flood control structure whose minimum elevation is at least two feet above the respective 100-year flood plain elevation.

ANALYSIS

41. SW-846 Method 8082 or NPDES approved methods for water must be used to determine

the PCB levels of all water samples. PCB levels must be reported as total PCB calculated by comparison to relevant Aroclor ™ standards.

42. Analyis for pH, specific conductance and chlorinated organics must be performed in accordance with standard U.S. EPA methods cited appropriately in the U.S. EPA approved CAMU Groundwater Monitoring Plan and Operations and Maintenance Plan.

RECORDKEEPING

43. All documents required by this Approval and 40 C.F.R. § 761 must be collected and maintained for at least 20 years after the CAMU is no longer used for the disposal of wastes. These required documents must be kept at one central location, and must be made available for inspection by authorized representatives of U.S. EPA.

REPORTING

44. U.S. EPA must approve of any removal of verified outliers from the statistical record.

45. USS must prepare and submit to U.S. EPA, by July 15 of each year, an annual report for the previous calendar year. The annual report, which will be incorporated into the CAMU Annual Report, must contain a summary of all information collected for the previous calendar year and include:

    i. all TSCA data and inspection results, including all water volumes produced monthly from the leak detection and collection system, monitoring data and laboratory data quality validation summary sheets for analysis of chemical constituents from air, groundwater, leachate, leak detector sampling; pool water elevations and reportable discharge water from the CAMU,

    ii. a graphical plot of the data and an environmental or a stratigraphic section that shows that Unit 1 continues to pose no unreasonable risk to health and the environment; and

    iii. spill cleanup summaries, if any.

46. USS must notify the U.S. EPA Corrective Action Project Manager within ten days of USS' receipt of monitoring results, if fluid from the leak detection collection system exceeds 1 ppm PCB or if groundwater samples exceed one-half part per billion (0.5 ppb) PCB.

47. USS must notify the U.S. EPA Corrective Action Project Manager of the results of all field monitoring for PCB that meet or exceed notification levels as determined by the approved, updated Air Monitoring and Operations Plan within 72 hours of their receipt by USS as well as report, concurrent to existing NPDES schedules, any results that exceed notification levels specified in the NPDES permit.

48. USS must notify the U.S. EPA Corrective Action Project Manager of any exceedence of

an action level of a specified criterion within 24 hours of its receipt by USS. Upon notification, U.S. EPA will determine if USS will be required to conduct additional evaluation and remediation.

49. USS must simultaneously notify the City of Gary when U.S. EPA is notified of intent to dispose of remediation waste into the CAMU.

50. USS shall simultaneously notify responsible city or county officials when EPA is notified of nuisance reports such as odor complaints.

51. If there is a spill or release of the equivalent of one pound or more of pure PCB, USS must notify the National Response Center at (800) 424-8802 within 24 hours of this spill or release

SAFETY AND HEALTH REQUIREMENTS

52. USS will provide the U.S. EPA, for review, the health and safety plans its contractor prepares for operations and maintenance activities. This process is to ensure that the contractor's health and safety plans are in compliance with applicable safety and health requirements and regulations. The plans shall encompass:

    i. safety, record keeping, sampling and analysis;

    ii. operational procedures for using, inspecting, repairing, decontaminating and replacing equipment used to identify, monitor, track, transport, dispose, and confine PCB; and

    iii. spill prevention, cleanup and emergency response procedures.

53. Field air monitoring must be conducted around the CAMU perimeter in accordance with the approved, updated Air Quality Monitoring Plan (see Appendix A), during PCB waste placement.

54. If air around the CAMU is found to meet or exceed an air action level in the approved updated Air Monitoring and Operations Plan, then USS must notify the U.S. EPA Corrective Action Project Manager, within 24 hours of USS' receipt of the monitoring data. U.S. EPA may require USS to stop filling operations, or take other measures.

55. USS must follow approved inspection guidelines in the CAMU application and report the results as required in the latest approved Health and Safety Plan.

CLOSURE/POST-CLOSURE

56. Within 90 days of last placement of waste into the CAMU, USS must begin closure of

the CAMU according to the schedule provided in the CAMU Closure Plan (see Appendix A).

57. At least 90 days prior to closure, USS must file with U.S. EPA a final closure/post closure plan for approval by the U.S. EPA. This plan must provide for the decontamination or disposal of PCB-contaminated sediments, remediation waste or equipment within unloading area of the CAMU that are contaminated with PCB above applicable cleanup levels and random testing of the CAMU unloading areas, equipment or the cap, to assure that PCB are not present at concentrationsabove risk-based levels.

58. Closure of Unit 1 requires a final cover subject to U.S. EPA approval.

59. USS must submit to U.S. EPA evidence of financial assurance and liability for a 30-year post-closure period that commences on the date of the TSCA Modification. U.S. EPA will determine whether the value of the financial assurance mechanism provides sufficient financial assurance for the performance of the CAMU's maintenance activities for the next 30-year period. If U.S. EPA determines, in writing, that the financial assurance mechanism does not provide sufficient financial assurance for the performance of the CAMU's maintenance activities for the next 30-year period, USS must revise and/or establish a new financial mechanism. Any new mechanism established under this paragraph must be in an amount that reflects the then present value of the estimated costs of the CAMU maintenance activities necessary to assure the effectiveness and integrity of the containment measure set forth in the TSCA PCB disposal application for the next 30-year period. Any new financial assurance mechanism must be in place within 30 days after receipt by USS of the written determination by the U.S. EPA. The financial assurance and liability document will similarly be evaluated and resubmitted by USS to EPA every five years for the upcoming thirty-year funding interval.

FINANCIAL ASSURANCE FUNDING

60. During post-closure care, USS must adjust the post-closure cost estimate, as defined above, in accordance with 40 C.F.R. § 761.65(f)(2), and fund the program accordingly.

COMPLIANCE WITH GOVERNMENTAL REQUIREMENTS

61. The Approval does not relieve USS from the duty to comply with TSCA and the federal PCB regulations found at 40 C.F.R. § 761.

62. In addition to the conditions of the Approval, USS must comply with all applicable federal, State and local laws, regulations and requirements.

63. To continue disposal operations, USS must maintain and comply with any and

all necessary federal, State, or local concurrences, approvals or permits.

MODIFICATIONS

64. Any major modification of TSCA disposal operations and monitoring procedures requires the written approval of the U.S. EPA Regional Administrator or as delegated.

65. Any minor modification of TSCA disposal operations and monitoring procedures requires written approval of the appropriate U.S. EPA Regional Division Director or as delegated.

INSPECTION

66. U.S. EPA reserves the right for its authorized representatives to perform inspections, review records and take samples at any time.

OWNERSHIP TRANSFER

67. The requirement and responsibilities for perpetual care transfers with ownership of the CAMU.

68. USS must provide a 90-day prior written notice to U.S. EPA and the State of Indiana of any planned transfer in ownership of Unit 1 of the CAMU or any part thereof and the name of the prospective transferee.

69. Should USS fail to provide to U.S. EPA, Region 5, the written documentation of sale or transfer, or to provide this documentation within the time required by paragraph 71, above, the Approval will be revoked.

70. The prospective new transferee must submit to U.S. EPA, at least 90 days before such transfer:

    i. a notarized affidavit signed by the transferee which states that the transferee will abide by the Approval;

    ii. a listing of past environmental violations by the transferee, its employees or assigns;

    iii. the qualifications of the principals and key employees; and

    iv. documentation of acceptable financial assurance and funding following the TSCA regulations at 40 C.F.R. § 761.65(g).

71. After reviewing the notification, affidavit and background information, U.S. EPA will either issue a modified approval substituting the transferee's name for the

transferor's name, or require the transferee to apply for a new PCB disposal approval. In the latter case, the transferee must abide by the Approval until notified otherwise.

72. If U.S. EPA requires the transferee to apply for a new PCB disposal approval, the transferee must submit to the Regional Administrator a complete TSCA application for disposal, closure and post-closure care that is no less complete than the transferor's TSCA PCB disposal application. The Regional Administrator may also require any additional information necessary to ensure that Unit 1 poses no unreasonable risk to health and the environment.

SEVERABILITY

73. All terms and/or conditions of the Approval are severable. If any provision of the Approval is changed, amended, or held invalid, the remainder of the Approval will still be valid and will not be affected thereby.

EXPIRATION/EXTENSION

74. This Approval expires 5 years after it becomes effective. USS may submit a written request to U.S. EPA, to extend the expiration date. Pending the decision on the extension, this Approval remains in effect. USS must make a written request at least 270 days prior to the expiration date of this Approval for any extension.

APPROVAL SUSPENSION/TERMINATION

75. Failure to comply with any of the provisions of the Approval, TSCA, the federal PCB regulations at 40 C.F.R. Part 761, or any other relevant federal, state or local requirements may constitute a sufficient basis for suspension or termination of the Approval.

76. Violations of any applicable federal, state, and local laws or regulations, failure to comply with the terms and conditions in this Approval, failure to disclose all relevant facts, or any other reason which the Regional Administrator deems necessary to protect health and the environment, may result in suspension or termination of the Approval. U.S. EPA may also suspend this Approval or terminate it at any time if the history of environmental civil violations or criminal convictions evidences a pattern or practice of maintain compliance with the regulations. Any violation of this Approval or TSCA may subject USS to enforcement action.

77. U.S. EPA may temporarily suspend or permanently terminate the Approval if the Regional Administrator determines that Unit 1 poses an unreasonable risk to health or the environment.

REINSTATEMENT

78. The Approval may be reinstated if the Regional Administrator determines that the unsafe practices or conditions that caused the suspension or termination are eliminated.

APPROVAL

79. In accordance with 40 C.F.R. § 761.61(c) and the aforementioned findings, U.S. EPA has determined that the Application is consistent with TSCA and that Unit 1, when operated in compliance with the conditions of the Approval, protects workers, the general public and the environment from unreasonable risk of injury by PCB. Provided that USS meets the conditions described above, U.S. EPA approves USS' August 31, 1995, PCB disposal application, as modified January 18, 2005, submitted pursuant to TSCA.

80. U.S. EPA reserves the right to impose additional conditions if it has reason to believe that the CAMU poses an unreasonable risk to health or the environment, if new information requires changes, or if U.S. EPA issues new regulations or standards.

81. The use of contractors or subcontractors to operate or administer Unit 1 does not relieve USS from the responsibility to comply with all applicable federal, State, and local regulations including, but not limited to, any advance or emergency notification and accident reporting requirements.

82. U.S. EPA reserves all legal rights available under all applicable statutes and regulations.

Any information that USS submits under the Approval is not subject to the requirements of the Paperwork Reduction Act, 44 U.S.C. § 3501, because it is information collected by U.S. EPA from a specific individual or entity for the purpose of assuring compliance with the terms of the Approval.

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Bruce F. Sypniewski, Acting Director,
Land and Chemicals Division
United States Environmental Protection Agency
Region 5

Date:_____

APPENDIX A

1) Air Monitoring & Operations Plan, April 11, 2003, as modified

2) Operations and Maintenance Plan November 2002 as modified to include:

a. Waste operations changes
b. Groundwater monitoring changes
c. Leak detector monitoring changes
d. Water treatment changes
e. Reporting schedule changes

3) Corrective Action Management Unit Closure and Post-Closure Plans, U.S. Steel-Gary Works, February 2003, prepared for U.S. Steel Gary works, Revision 2, with closure cost estimates, plans, and calculations; and post closure cost estimates, plans, and calculations, with the current USS corporate financial assurance statement.

APPENDIX B

1) Use Procedures Authorization, March 23, 2006, Corrective Action Management Unit, U.S. Steel Gary Works, IND 005 444 062.U.S. EPA Region 5, Enforcement and Compliance Assurance Branch, 6p.