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 Those rules were withdrawn with the publication and finalization of new rulemaking effective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.

~~21.~~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 ~~obtained~~ maintains a ~~an~~ NPDES permit authorizing the final discharge of treated water from the CAMU to the Grand Calumet River through ~~a new or~~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. ~~before use of Unit 1.~~

30. 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.

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.