

STATE OF KANSAS
DEPARTMENT OF HEALTH AND ENVIRONMENT

In the Matter of:)	
)	
Environmental Contamination at the)	
National Zinc Site)	Case No. 03-E-0022 BER
Cherryvale, Kansas)	
)	
United States Steel Corporation and)	
Citigroup Global Market Holdings, Inc.,)	
<i>Respondents.</i>)	

SECOND AMENDMENT TO CONSENT ORDER

Now on this 3rd day of May, 2013, ("Date of Second Amendment to Consent Order") the Kansas Department of Health and Environment ("KDHE"), United States Steel Corporation and Citigroup Global Market Holdings, Inc. f/k/a Salomon Smith Barney Holdings, Inc. ("Respondents"), (collectively, the "Parties"), mutually agree to amend the Consent Order, entered into by the Parties on April 7, 2003, as amended by an "Amendment to Consent Order" dated June 4, 2007 (collectively, "Consent Order"). Respondents and KDHE now find that it is in the best interest of the Parties and the public to enter into this Second Amendment to Consent Order, to further amend the Consent Order to include additional Findings of Facts and additional Exhibit(s), and to set out the responsibilities for and the preparation and implementation of a Removal Site Evaluation ("RSE") and development of a Removal Action Design ("RAD") to

address contamination in the City of Cherryvale, Kansas, beyond the site boundary defined in the Consent Order.

This Second Amendment to Consent Order is fully incorporated into the Consent Order, and all terms of the Consent Order remain in effect and apply to Respondents and to the Second Amendment to Consent Order, unless such terms are expressly replaced by the terms of this Second Amendment to Consent Order. In the event of a conflict between the Consent Order and the Second Amendment to Consent Order, the Second Amendment to Consent Order shall control as to all matters addressed by this Second Amendment to Consent Order. Matters within the scope of the Consent Order, i.e. unnamed creek, Drum Creek, and the former National Zinc Site, exclusive of activities and requirements under this Second Amendment to Consent Order related to future soil handling, management, and disposal activities, shall continue to be governed by the Consent Order.

ADDITIONAL FINDINGS OF FACT

1. Under this Second Amendment to Consent Order, "Site" shall include the facility and property identified in paragraph 9 of the Consent Order ("former National Zinc site") and all areas and media from which hazardous substances or wastes and any other contamination or pollution originating from the former National Zinc Site have been released, transported, and/or have migrated or emanated within the corporate limits of the City of Cherryvale, which are shown approximately in Exhibit 7.

2. In May 2012, June 2012, July 2012, and August 2012, KHDE staff conducted visual inspections of property outside the former National Zinc Site, and took soil samples from

said properties using a Delta X-Ray Fluorescence analyzer ("XRF"). KDHE submitted confirmation samples to KDHE's laboratory.

3. From its visual inspections, KDHE staff documented that smelter waste and slag appeared to be located in areas throughout Cherryvale, Kansas, including at residential properties, in drainage ditches, and along sidewalks and public right of ways. The XRF screening data and analytical results of sampling showed arsenic, lead, mercury, cadmium and/or zinc at concentrations exceeding applicable Tier 2 Levels as specified in the *Risk-Based Standards for Kansas (RSK) Manual* dated October 2010.

4. Respondents deny any factual or legal liability or responsibility for any contamination located outside the former National Zinc Site. Nevertheless, KDHE has concluded that a RSE and RAD are necessary to determine the extent of any threat(s) that may be posed to public health or safety by contamination located outside the former National Zinc Site. Subject to the provisions of the Consent Order and of this Second Amendment to Consent Order, Respondents agree to conduct a RSE and RAD regarding areas in the City of Cherryvale outside the former National Zinc Site in accordance with the KDHE's Scope of Work for RSE/RAD/RA incorporated herein as Exhibit 8.

5. Neither entry into nor performance of this Second Amendment to Consent Order shall constitute or be construed as an admission or acknowledgment by either Respondent of any fact, legal issue, or conclusion of law, or of any liability, fault or responsibility, or of a waiver of any rights, privileges, or defenses, by either of them, or as evidence of such with respect to the Site described in paragraph 1 above and the surrounding environment, nor shall it be admitted in

evidence against Respondents in any proceeding other than a proceeding by KDHE to enforce this Second Amendment to Consent Order; and Respondents expressly deny any liability, fault or responsibility with respect to said Site.

6. The Findings of Fact and/or Conclusions of Law made by KDHE as set forth herein are not admitted by Respondents. However, solely for the purposes of this Second Amendment to Consent Order, and subject to the provisions of Paragraph 5 above, Respondents consent that said Findings of Fact and/or Conclusions of Law shall govern and control their obligations, rights and duties under this Second Amendment to Consent Order.

7. While the Respondents to this Second Amendment to Consent Order do not admit liability for the contamination at the Site identified in Paragraph 1 hereof and the surrounding environment, nevertheless they agree to enter into this Second Amendment to Consent Order and to undertake the RSE and RAD activities described below.

ADDITIONAL EXHIBITS

8. The following documents shall be incorporated herein:
- a. Exhibit 7: Site Map
 - b. Exhibit 8: Removal Site Evaluation/Removal Action Design/Removal Action ("RSE/RAD/RA") Scope of Work
 - c. Exhibit 9: Phase 1 RSE Work Plan (upon KDHE approval)
 - d. Exhibit 9-A: Phase 2 RSE Work Plan (upon KDHE approval)
 - e. Exhibit 10: Agency Decision Statement (ADS) (incorporated herein upon KDHE final issuance).

- f. Exhibit 11: RAD Plan (upon KDHE approval)
- g. Exhibit 12: Project Deliverable and Milestone Schedule
- h. Exhibit 13: Soil Waste Management Plan (upon KDHE approval)

ADDITIONAL ORDERS

9. **KDHE Approval of Work and Documents.** All activity contemplated or performed pursuant to this Second Amendment to Consent Order shall be conducted subject to the approval of KDHE in accordance with the terms of this Second Amendment to Consent Order and consistent with the standards, specifications and schedules approved by KDHE as contained in the exhibits to this Second Amendment to Consent Order.

10. **Task Specific Schedules.** The Second Amendment to Consent Order shall be implemented in accordance with the Project Deliverable and Milestone Schedule found at Exhibit 12. All Work Plans required pursuant to this Second Amendment to Consent Order shall establish task specific dates and timeframes for related implementation and reporting activities. Each schedule shall specifically include Respondents' proposed milestone dates for start and completion of implementation as well as submittal of a draft report. All requests for schedule extensions must be submitted in advance by Respondents to KDHE for approval.

11. The first sentence in Paragraph 44 of the April 7, 2003, Consent Order is hereby amended to add the phrase "and Exhibit 8" after "Exhibit 1."

12. Paragraph 64 of the April 7, 2003, Consent Order is hereby amended to read as follows:

a. For KDHE:

Holly Burke
Bureau of Environmental Remediation/KDHE
Curtis State Office Building
1000 SW Jackson, Suite 410
Topeka, KS 66612-1367
Office: 785-296-6242
Email: hburke@kdheks.gov

b. For United States Steel Corporation:

Andrew G. Thiros
Attorney
U.S. Steel Corporation
600 Grant Street, Suite 1500
Pittsburgh, PA 15219-2800
Office: (412) 433-2983
Email: agthiros@uss.com

AND

Mark R. Rupnow
Director – Environmental Remediation
U.S. Steel Corporation
1350 Penn Ave.
Pittsburgh, PA 15222
Office: (412) 433-6191
Email: mrupnow@uss.com

c. For Citigroup Global Market Holdings, Inc. f/k/a Salomon Smith Barney Holdings, Inc.:

John Preston Turner
Legal Department
300 St. Paul Pl.
BSP 05A
Baltimore, MD 21202
Office: (410) 332-3687
Email: john.preston.turner@citi.com

AND

William C. Anderson
Doerner, Saunders, Daniel & Anderson, L.L.P.
Williams Center Tower II
Two West Second Street, Suite 700
Tulsa, OK 74103-3117
Office: (918) 591-5283
Email: wanderson@dnda.com

- d. No later than thirty days from the Date of Second Amendment to Consent Order, or from the date of any change in project coordinators, Respondents shall notify KDHE in writing of the project coordinator's name, address, email address and phone number.

13. **RSE.**

- a. **Submission of Draft Phase 1 RSE Work Plan.** Respondents shall submit a draft Phase 1 RSE Work Plan (Exhibit 9) for KDHE approval which is consistent with the RSE/RAD/RA SOW (Exhibit 8). As a component of the RSE process, Respondents have elected to conduct additional testing, data evaluation and soil bioavailability assessment to derive Site-specific cleanup levels for the Site contaminants of concern. All such additional activities shall be described in the Phase 1 RSE Work Plan.
- b. **Phase 1 RSE Implementation.** Upon KDHE approval, Respondents shall implement the tasks detailed in the Phase 1 RSE Work Plan. The

work shall be conducted in accordance with the standards and specifications contained in the RSE/RAD/RA SOW.

- c. **Submission of Draft Phase 1 RSE Report.** Respondents shall submit a draft Phase 1 RSE Report for KDHE approval pursuant to the Phase 1 RSE Work Plan. Respondents shall prepare the draft Phase 1 RSE Report consistent with the RSE/RAD/RA SOW, shall specifically include a summary of the Phase 1 RSE work completed, and shall identify all activities, findings and recommendation associated with the Site-specific cleanup levels derived by Respondents' under paragraphs 13.a and 13.b.
- d. **Submission of Draft Phase 2 RSE Work Plan.** Within 45 days after KDHE approval of the draft Phase 1 RSE Report, Respondents shall submit a draft Phase 2 RSE Work Plan (Exhibit 9-A), for KDHE approval which is consistent with the RSE/RAD/RA SOW (Exhibit 8). The Phase 2 RSE Work Plan shall focus on providing an assessment of the nature and extent of smelter related contamination located in areas in the City of Cherryvale outside the former National Zinc Site, and shall incorporate and apply the Site specific clean up levels established in the Phase 1 RSE and set forth in the approved Phase 1 RSE Report.
- e. **Phase 2 RSE Implementation.** Upon KDHE approval, Respondents shall implement the tasks detailed in the Phase 2 RSE Work Plan. The

work shall be conducted in accordance with the standards and specifications contained in the RSE/RAD/RA SOW.

- f. **Submission of Draft Phase 2 RSE Report.** Respondents shall submit a draft Phase 2 RSE Report for KDHE approval pursuant to Phase 2 RSE Work Plan. Respondents shall prepare the draft Phase 2 RSE Report consistent with the RSE/RAD/RA SOW, shall specifically include a summary of the Phase 2 RSE work completed, and shall identify all activities, findings and recommendations associated with the assessment of the nature and extent of smelter related contamination derived by Respondents under paragraphs 13.d and 13.e.
- g. **Issuance of ADS.** Based on the KDHE-approved Phase 1 and Phase 2 RSE Reports, KDHE shall draft and issue an ADS describing proposed removal action activities for the Site. Once final, the ADS shall become incorporated into this Second Amendment to Consent Order and made a part hereof as Exhibit 10.
- h. **Submission of Draft RAD Plan.** Within sixty (60) days of the issuance of a Final ADS, Respondents shall submit a draft RAD Plan for KDHE approval consistent with the RSE/RAD/RA SOW. The draft RAD Plan shall facilitate, to the extent possible, commencement of substantial continuous physical on-site corrective action within ninety (90) days of KDHE approval of the RAD Plan. Once Final, the RAD Plan shall become

incorporated into this Second Amendment to Consent Order and made a part hereof as Exhibit 11. Respondents shall have no obligation under this Second Amendment to Consent Order to implement the RAD Plan. The Parties shall, within twenty (20) days after KDHE's approval of the RAD Plan, initiate good faith negotiations for a Third Amendment to Consent Order to implement the RAD Plan. If such a Third Amendment to the Consent Order is not agreed to within sixty (60) days from the start of negotiations (i.e. within 80 days after KDHE's approval of the RAD Plan), KDHE reserves the right to issue a unilateral administrative order to Respondents. In the event such a unilateral administrative order is issued by KDHE, Respondents reserve all legal and/or factual rights, privileges and defenses available to them to defend against said unilateral administrative order.

14. **Costs for KDHE Risk Assessment Support Contractor.** KDHE will utilize a qualified contract risk assessor to support the Agency's review of Respondents' development of Site-specific cleanup levels. Respondents shall reimburse KDHE for all reasonable costs associated with the risk assessment contractor's review of the Phase 1 and Phase 2 RSE Work Plans and Phase 1 and Phase 2 RSE Reports as contemplated by Paragraphs 66 and 69 of the Consent Order.

15. **Soil Waste Management Plan.** On the same time schedule applicable to development and submission of the draft RAD Plan, or as otherwise directed by KDHE,

Respondents shall develop and submit to KDHE a draft Soil-Waste Management Plan (“SWMP”) for KDHE review and approval. The SWMP shall be structured to facilitate proper and lawful management and disposal of contaminated soil and waste associated with historical smelter operations at the former National Zinc site. The SWMP, upon KDHE approval, shall be used during future construction and redevelopment activities performed in Cherryvale by the City of Cherryvale and/or others. The SWMP shall describe the protocols for managing such materials and waste and shall identify the location and management of the final repository for all contaminated soil and smelter waste removed from the Site. Upon approval of the SWMP, it shall be attached hereto as Exhibit 13 and incorporated herein.

16. **Land-Use Controls.** On the same time schedule applicable to development and submission of the draft RAD Plan, or as otherwise directed by KDHE, Respondents will initiate discussions with the City of Cherryvale to draft and enact City ordinances establishing land use controls to implement the SWMP, facilitate proper management and disposal of contaminated soil and wastes associated with historical smelter operations and to minimize potential exposure to smelter-related contamination in the community.

17. **Field Activities Notification.** Respondents shall provide KDHE at least seven (7) days advance written notification before conducting any investigation and/or remediation, or other ancillary activities related to such measures, whether conducted pursuant to the Consent Order or Second Amendment to Consent Order, or to a request, requirement or order from any other federal, state or local regulatory authority where the resultant data or information would be used in part or in full to satisfy requirements of the Consent Order or the Second Amendment to

Consent Order. Failure to provide advance written notification may result in KDHE rejecting the data obtained or work conducted by the Respondents. Advance written notification is to be accomplished by completing the KDHE-BER Remedial Section Field Activities Notification Form on the KDHE website for each activity as distinguished by separate field mobilizations. If website access is not available, Respondents may provide required written notification by completing the BER form and submitting it to the KDHE project coordinator.

18. **Document Submission and Modification Process.** All Consent Order requirements for document submittal, revisions to documents, disapproval of documents, and timing and submittal of reports, plans, and other deliverables shall apply to documents submitted by Respondents in accordance with the Second Amendment to Consent Order.

19. **Work Takeover – Notice.** If without good cause, Respondents fail to revise, correct or otherwise respond to KDHE's Notice to Correct for inadequate document modification or work performance in accordance with the schedule specified in the Notice to Correct, or if KDHE determines that Respondents, without good cause, either: 1) have ceased implementation of any portion of the work, 2) are seriously or repeatedly deficient or late in its performance of the work, or 3) are implementing the work in a manner which may cause an endangerment to human health or the environment, KDHE at its discretion, may assume or arrange for a contractor or contractors to assume the performance of all or any portions of the work as KDHE determines necessary. If KDHE determines that such a work takeover is necessary, it will send Respondents a Notice of Work Takeover specifying a date upon which KDHE may assume or arrange for a contractor or contractors to assume the performance of all or any portions of the

work. In the event of work takeover, Respondents shall pay for all reasonable costs incurred by KDHE and any contractor who performs work pursuant to this Paragraph.

20. **Authority.** Each Party has full knowledge of and has consented to this Second Amendment to Consent Order, and represents and warrants that each person who executes this Second Amendment to Consent Order on its behalf is duly authorized to execute this Second Amendment to Consent Order on behalf of the respective Party and legally bind the Party represented to this Second Amendment to Consent Order.

21. **Entire Agreement.** Except as provided in this Second Amendment to Consent Order, all other provisions of the Consent Order shall remain in full force and effect, shall be incorporated herein, and shall be made applicable to all matters contemplated by this Second Amendment to Consent Order.

IT IS SO ORDERED.

KANSAS DEPARTMENT OF
HEALTH AND ENVIRONMENT

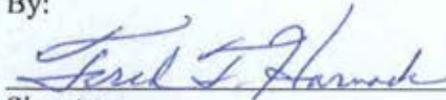
By:


Robert Moser, MD
Secretary

5/3/13
Date

UNITED STATES STEEL CORPORATION

By:



Signature

Fred T. Hornack

Name (Typed or Printed)

General Manager Environmental Affairs

Title

April 19, 2013

Date

**STATE OF KANSAS
DEPARTMENT OF HEALTH AND ENVIRONMENT**

In the Matter of:)
)
)
Environmental Contamination at the)
National Zinc Site) Case No. 03-E-0222 BER
Cherryvale, Kansas)
)
United States Steel Corporation and)
Citigroup Global Market Holdings, Inc.,)
Respondents.)

CERTIFICATE OF MAILING

I hereby certify that on the 7th day of May, 2013, I caused a true and correct copy of the foregoing Second Amendment to Consent Order to be deposited in the United States Mail, First Class, postage prepaid and addressed as follows:

John Preston Turner
Legal Department
300 St. Paul Pl.
BSP 05A
Baltimore, MD 21202

Andrew G. Thiros
Attorney
U.S. Steel Corporation
600 Grant Street, Suite 1500
Pittsburgh, PA 15219-2800

William C. Anderson
Doerner, Saunders, Daniel & Anderson, L.L.P.
Williams Center Tower II
Two West Second Street, Suite 700
Tulsa, OK 74103-3117

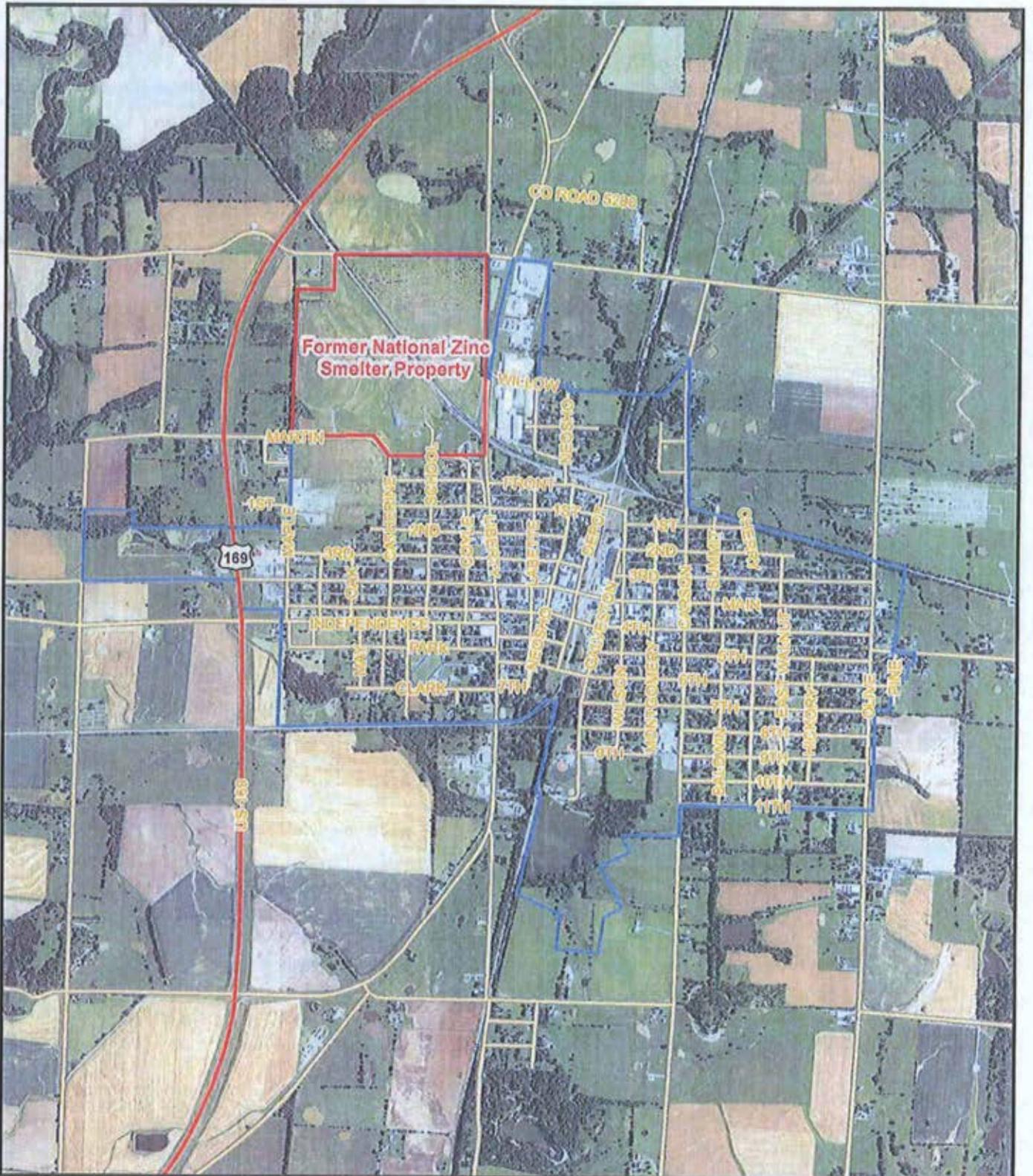


KDHE Staff Member

LIST OF EXHIBITS

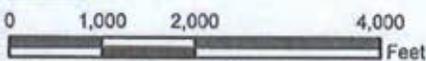
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¹ To be attached as exhibits upon KDHE approval or issuance.



LEGEND

- Property Boundary
- Cherryvale City Limits (approximate)



Map Source: Aerial Photograph 2012 National Agriculture Imagery Program (NAIP)



SITE: National Zinc Site
Cherryvale, Kansas

TITLE: Property Location Map

PROJECT PHASE: Second Amendment to Consent Order

DRAWN BY:	JW	4/11/13	BASEMAP DATE:	2012
CHECKED BY:	HB	4/11/13	Exhibit 7	

**BUREAU OF ENVIRONMENTAL REMEDIATION/REMEDIAL SECTION
POLICY and SCOPE OF WORK**

**REMOVAL SITE EVALUATION (RSE)/REMOVAL ACTION
DESIGN (RAD)/REMOVAL ACTION (RA)**

INTRODUCTION

This Kansas Department of Health and Environment—Bureau of Environmental Remediation (KDHE—BER) Remedial Section policy and scope of work establishes a management strategy and general framework for implementation of removal action activities at sites under various state cleanup programs. There are several such programs within the Remedial Section responsible for direction and/or oversight of investigation and cleanup of sites throughout Kansas. This policy and scope of work has been developed to promote consistency across Remedial Section programs for which removal action implementation may be appropriate. Where site issues posed are relatively uncomplicated yet must be addressed expeditiously, the U.S. Environmental Protection Agency (EPA) can approach the problem by exercising their removal action authority. On occasion, when dealing with an orphan site or a recalcitrant/reluctant potentially responsible party, KDHE—BER has been able to refer certain sites to EPA to avail ourselves to federal removal action authority. This typically results in sites (or portions of sites) being addressed in a more timely manner with the added benefit of work being accomplished at lesser cost to the State of Kansas. KDHE—BER also applies the more streamlined RSE/RAD/RA approach to presumptive remedy-type sites which have similar characteristics (e.g., former smelter sites) to facilitate overall program efficiency.

DEFINITION AND GENERAL FRAMEWORK

The National Oil and Hazardous Substances Contingency Plan (NCP) has defined a removal action as the *cleanup or removal of released hazardous substances from the environment; such actions as may be necessary taken in the event of the threat of release of hazardous substances into the environment; such actions as may be necessary to monitor, assess, and evaluate the release or threat of release of hazardous substances; the disposal of removed material; or the taking of such other actions as may be necessary to prevent, minimize, or mitigate damage to the public health or welfare or to the environment, which may otherwise result from a release or threat of release.* Within the EPA universe, removal actions are categorized as emergency, time-critical or non-time-critical, dependent upon the circumstances posed, urgency and threat of release or potential release, and timeframe in which the action must be initiated.

For more complex removal actions implemented under the auspices of the KDHE—BER Remedial Section, or as requested by the implementing party, a goal will be to achieve general NCP consistency to the extent practicable. Individual programs within the KDHE—BER Remedial Section may have other unique or possibly less rigorous requirements associated with a removal action. Therefore, it is incumbent upon each KDHE—BER project manager to have a clear understanding of all program-specific guidelines, policies and regulatory requirements that may have bearing on removal action implementation at a particular site. On a final introductory note, this policy and scope of work was written using more familiar, universally recognized

EXHIBIT 8

terminology from the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) realm and is not intended to supplant other analogous Remedial Section program elements. Any removal action or presumptive remedy would be expected to comply with all applicable or relevant and appropriate requirements (ARARs) and to be considered (TBC) guidance identified to that point in time consistent with BER Policy #BER-RS-015.

EXAMPLES AND APPLICABILITY

In determining the appropriateness of any removal action, the following factors, as identified in the NCP (300.415), are to be considered:

- Actual or potential exposure to nearby human populations, animals or the food chain from hazardous substances, pollutants or contaminants;
- Actual or potential contamination of drinking water supplies or sensitive ecosystems;
- Hazardous substances in drums, barrels, tanks or other bulk storage containers that may pose a threat of release;
- High levels of hazardous substances, pollutants or contaminants in soils largely at or near the surface that may migrate;
- Weather conditions that may cause migration or release of hazardous substances, pollutants or contaminants;
- Threat of fire or explosion;
- Availability of other appropriate mitigative response mechanisms; and,
- Other situations or factors that may pose threats to public health, welfare or the environment.

There are numerous types of removal actions, or combinations thereof, to be considered by KDHE—BER for a given site including, but not limited to, the following:

- Fences, warning signs or other access control measures;
- Run-off or run-on surface drainage controls;
- Lagoon closure or stabilization of existing retention structures (e.g., berms or dikes);
- Consolidation and capping of contaminated soil or sludge within the area of contamination (AOC);
- Excavation, consolidation or removal of highly contaminated soils from drainage features or other areas;
- Removal of drums, barrels, tanks or other bulk containers;
- Residential yard removal;
- Containment, treatment or disposal of hazardous materials; and,
- Provision of alternate water supply or point-of-use treatment.

As circumstances dictate, the expectation is that each program, through whatever agreement or enforcement mechanism might be available (e.g., administrative order, consent agreement, voluntary agreement, etc.), will contemplate the need for possible removal action measures at a site. Often times, a removal action is the stand-alone response or presumptive remedy action

EXHIBIT 8

taken at a site; however, there are instances where a removal action is implemented to address a single issue and subsequent remedial action is performed to comprehensively address all site risks posed.

RSE/RAD/RA OBJECTIVES

A removal action is generally intended for less complex circumstances resulting in more focused characterization and presumptive/streamlined response action implementation, thereby precluding unnecessary treatability study or pilot testing activities. Minimal design effort with emphasis on "off-the-shelf" system components would be typical. Implementation of a removal action under this RSE/RAD/RA policy and scope of work is intended to be a flexible process in which elements can be waived or modified at the discretion of the KDHE—BER project manager to ensure appropriate action is taken in as expeditious and cost-effective a manner as possible. Depending on site-specific circumstances, KDHE—BER may determine the need for additional tasks, including submittal of associated planning and reporting documents, to be conducted concurrently with RSE/RAD/RA activities.

The primary objectives of the RSE/RAD/RA are described as follows:

- 1) Determine the full extent of contamination for all contaminants of concern (COCs) and evaluate the threat to human health and/or the environment;
- 2) Assess the migration of and the chemical/physical properties of the contaminants;
- 3) Collect the data necessary to select an appropriate removal action;
- 4) Gather a sufficient amount of data to support the design parameters of the proposed removal action;
- 5) Evaluate the feasibility, effectiveness and cost of at least two (2) viable removal actions based on the findings of the RSE in comparison with the "no action" alternative;
- 6) Recommend and justify a specific removal action for the site consistent with long-term goals;
- 7) Determine the health and environmental effects of the removal action;
- 8) Establish performance monitoring criteria for the removal action;
- 9) Provide adequate documentation to support the removal action as being consistent with long-term goals for the site; and,
- 10) Implement the removal action to successfully abate, prevent, minimize, stabilize, mitigate or eliminate the release or threat of release.

RSE/RAD/RA PROCESS

This policy and scope of work outlines the activities to be completed as part of the RSE/RAD/RA process. At the discretion of the KDHE—BER project manager, and with the approval of KDHE—BER management, some of the steps in the process may be combined or eliminated to best serve project needs.

STEP 1 RSE Work Plan—An RSE Work Plan must be prepared and submitted to KDHE—BER for review and approval before any removal action activities commence, unless otherwise requested or approved by KDHE—BER. The RSE Work Plan shall minimally include the following project- or site-specific elements: 1) site assessment/evaluation plan (field sampling plan-equivalent); 2) quality assurance project plan; 3) health and safety plan; and, 4) preliminary screening of potential removal actions, particularly for presumptive remedy-type sites. An RSE implementation schedule must be included in the RSE Work Plan.

The RSE portion of the work plan shall at a minimum include a review of available information and documented findings; a description of the physical site characteristics (e.g., geology, hydrogeology, surface hydrology, land use, etc.); a detailed description of the type(s) of contaminants involved, release characteristics and contaminated media; evaluation or investigation objectives; and, detailed procedures for determining the nature and extent of contamination and evaluating all exposure pathways of concern. A screening level risk assessment appropriate for determining the risk and removal goals for the site may be required at the discretion of the KDHE—BER project manager. RSE requirements may be modified or waived by the KDHE—BER project manager if adequate site information is already available to satisfy the stated RSE objectives listed above.

The preliminary screening of potential removal actions should provide a brief description of possible removal action(s), general response action(s) or presumptive remedy to address threats to human health and the environment. At this stage, it would be appropriate to contemplate the need for and timing of establishment of environmental use controls. In addition, the work plan should present preliminary removal action objectives; ARARs; and, cleanup standards or cleanup goals (e.g., Tier 2 screening levels in the *Risk-Based Standards for Kansas RSK Manual*).

STEP 2 RSE Report—The RSE Report shall present the results of the RSE and shall evaluate at least two possible removal action alternatives in comparison to the "no action" alternative in the following format:

- 1) Summary of site assessment/evaluation work completed (as applicable);
- 2) Description of COCs, including a discussion and summary of data collected (with appropriate quality assurance/quality control (QA/QC) and data validation information);
- 3) An evaluation of possible exposure pathways including areal extent of all COCs;
- 4) Removal action goals and appropriate cleanup levels;

EXHIBIT 8

- 5) Detailed rationale for any presumptive remedy and/or a description of at least two potential removal action alternatives and a "no action" alternative for the site, including an evaluation of the effectiveness of the removal action alternatives in terms of the long-term objectives and reduction of risk to health and the environment;
- 6) A comparison and justification of the costs of each removal action;
- 7) A consideration of appropriate regulations, ARARs, etc. pertinent to each removal action alternative evaluated;
- 8) Recommendation of appropriate removal action giving adequate supporting rationale for its selection based on the above-defined criteria; and,
- 9) Establishment of adequate post-removal confirmation sampling and/or monitoring to assess removal action performance.

STEP 3 RAD Plan—After KDHE issuance of a decision statement or Corrective Action Decision (CAD), a RAD Plan presenting the preferred removal alternative will be submitted to KDHE for review and approval according to the KDHE-approved schedule.

This RAD Plan may vary in detail depending on the requirements of the participating Remedial Section program. The RA package will include, at a minimum, a summary of available site information and available investigation results; a detailed description of the proposed removal action or presumptive remedy; justification and benefit of implementation including removal action objectives; depending on the complexity of the removal action, complete design specifications and drawing/schematics, including any relevant figures and/or site system engineering layouts (e.g., process flow diagram, piping and instrumentation diagram, etc.) and engineering design basis; cost estimate; and, a detailed working schedule presented graphically in the form of a milestone chart (e.g., Gantt chart) to show the duration and interdependencies of the various activities. Depending on the complexity of the proposed removal action and requirements of the specific Remedial Section program, the RAD Plan may need to address operation and maintenance (O&M) as well as performance monitoring needs. Please refer to BER Policy #BER-RS-023 (Section 1.4), for a discussion of typical performance monitoring elements, and to Attachment A, as an example outline of a RAD Plan. Attachment A is not intended to be prescriptive in nature, rather a model from which to work. The exact elements and content of any RAD Plan will be determined by the KDHE—BER project manager dependent upon the overall complexity of the anticipated removal action while being consistent with the specific requirements of the respective Remedial Section program.

STEP 4 RA Implementation—Pursuant to the KDHE decision statement or CAD, the RA will be implemented in accordance with the KDHE-approved RAD Plan. Emergency or time-critical removal actions may occur before a decision statement or CAD is issued; however, public involvement activities may be warranted. Ultimately, KDHE—BER will determine whether or not the actions taken are deemed complete or fully operational and functional.

EXHIBIT 8

STEP 5 RA Summary Report—An RA Summary Report shall be submitted after completion of the removal action or presumptive remedy activities. The RA Summary Report shall include a final summary of removal action activities and an evaluation of the post-removal action confirmation sampling relative to removal action goals. The KDHE—BER project manager will determine the appropriate form or content of the RA Summary Report. If the removal action or presumptive remedy continues as an on-going effort, then the implementing party must submit a monitoring/progress report at a frequency specified in the KDHE—approved Performance Monitoring Plan.

PUBLIC INVOLVEMENT

Public involvement activities must be performed as required by KDHE—BER. An NCP-consistent Community Involvement Plan may be necessary at certain sites and will be implemented upon the discretion of the KDHE—BER project manager. Note that public involvement requirements may vary for the various Remedial Section programs.

KDHE DECISION DOCUMENT

Minimally, KDHE will make available for public comment a draft removal action or presumptive remedy decision statement. The removal action decision statement would be finalized with consideration of public comment received. Alternatively, depending on the complexities posed at the site, KDHE may opt to proceed with a formal CAD. A draft CAD would be made available for public comment and the CAD finalized with consideration of public comment regarding the removal action or presumptive remedy.

REFERENCES

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. § 9601 et seq. as amended by the Superfund Amendments and Reauthorization Act)

National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR 300)

EPA/540-R-93-057 (August 1993) entitled “Guidance on Conducting Non-Time-Critical Removal Actions Under CERCLA”

U.S. EPA OSWER Directive 9360.0-32FS (December 1993) entitled “Conducting Non-Time-Critical Removal Actions Under CERCLA”

U.S. EPA Memorandum from Stephen Luftig and Barry Breen (February 14, 2000) entitled “Use of Non-Time Critical Removal Authority in Superfund Response Actions”

KDHE—BER *Risk-Based Standards for Kansas RSK Manual – 4th Version* (June 2007 as revised)

Attachment A
RAD Plan
Example Outline

- I. Site Background
- II. Previous Investigations and Summary of Results
- III. Description of Proposed Removal Action or Presumptive Remedy
- IV. Removal Action Objectives
- V. Removal Action or Presumptive Remedy Design
 - a. Design Basis
 - b. Design Specifications
 - c. Drawings/Schematics
 - d. Cost Estimate
 - e. Detailed Working Schedule (to be periodically updated)

APPENDICES

Appendix A – Quality Assurance Project Plan (or reference existing document)

Appendix B – Health and Safety Plan (or reference existing document)

Appendix C – Operations and Maintenance Plan (as necessary)

Appendix D – Performance Monitoring Plan (as necessary)

**Exhibit 12
Project Deliverable and Milestone Schedule¹**

Deliverable/Milestone	Due Date
Draft Phase 1 Removal Site Evaluation (RSE) Work Plan ²	Due within 60 days from the date of the Second Amendment to Consent Order or as otherwise directed by KDHE.
Commence implementation of Phase 1 RSE activities	Per the Phase 1 RSE Schedule established in KDHE-approved Phase 1 RSE Work Plan.
Complete implementation and reporting of Phase 1 RSE activities	Per the Phase 1 RSE Schedule established in KDHE-approved Phase 1 RSE Work Plan.
Draft Phase 2 Removal Site Evaluation (RSE) Work Plan	Due within 45 days from the date of KDHE approval of Phase 1 RSE Report.
Commence Implementation of Phase 2 RSE activities	Per the Phase 2 RSE Schedule established in the KDHE -approved Phase 2 RSE Work Plan.
Complete implementation and reporting of Phase 2 RSE activities	Per the Phase 2 RSE Schedule established in the KDHE -approved Phase 2 RSE Work Plan.
Draft Removal Action Design (RAD) Plan ²	Due within 60 days of KDHE issuance of the Final Agency Decision Statement (ADS) or as otherwise directed by KDHE.
Draft Soil-Waste Management Plan	Due within 60 days of KDHE issuance of the Final Agency Decision Statement (ADS) or as otherwise directed by KDHE.
Draft Institutional Controls (IC)/City Ordinance Plan	Due within 60 days of KDHE issuance of the Final Agency Decision Statement (ADS) or as otherwise directed by KDHE.
Quarterly Progress Reports ³	Due each quarter, 45 days after the end of each quarter or as otherwise agreed by KDHE.

¹ One hard copy plus one electronic copy of each deliverable shall be provided unless otherwise directed by KDHE; revised deliverable(s) shall be provided within 30 days of receipt of KDHE comments.

² In accordance with Scope of Work #BER-RS-031, incorporated herein as Exhibit 8, and including other associated documents as described in the RSE/RAD/RA Scope of Work.

³ As approved by the KDHE Project Coordinator, quarterly progress may be documented in other routine monitoring report submittals.