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STATEMENT OF BASIS
FOR IMPLEMENTING CORRECTIVE ACTION

CMC STEEL-SOUTH CAROLINA
CAYCE, LEXINGTON COUNTY, SOUTH CAROLINA
SCD 003 353 760

PURPOSE OF THE STATEMENT OF BASIS

This Statement of Basis has been prepared to inform the public and provide an opportunity to comment on the proposed corrective action for solid waste management units (SWMUs) at the CMC Steel-South Carolina (CMC) Site. The CMC Site is located at 310 New State Road, Cayce, SC 29033 having the facility identification number SCD 003 353 760.

The September 26, 2008 Corrective Measures Study (CMS) Report proposes corrective action for soil and groundwater at sixteen SWMUs and areas of concern (AOCs) at the CMC Site. A list of the SWMUs and AOCs and the proposed corrective measures are provided in Table 1 on Page 7. The CMS Report proposes **Excavation and Off-site Disposal** as the corrective action for contaminated soils. **Monitored Natural Attenuation (MNA)** combined with **Institutional Controls** is proposed as the corrective measure for metals contamination in groundwater. **Groundwater Pumping** is proposed as the corrective action for AOC F (Hydrocarbon Release Area) where a release of fuel oil has contaminated groundwater.

The South Carolina Department of Health and Environmental Control (SC DHEC) has determined that the proposed corrective action should be sufficient to protect human health and the environment. However, prior to final approval of the proposed corrective action, the public has an opportunity to comment on the proposed corrective action. At any time during the public comment period, the public may comment as described in the "How Do You Participate?" section. Upon closure of the public comment period, SC DHEC will evaluate all comments and questions and determine if there is a need to modify the proposed corrective action.

HOW DO YOU PARTICIPATE?

The SC DHEC solicits public review and comment prior to approval of the proposed corrective action for the SWMUs and AOCs. The public comment period for the proposed corrective action will begin on July 9, 2009 and will end 45 days later on August 23, 2008.

The Statement of Basis and the documents associated with the investigations and corrective actions proposed for the site will be available to the public for review during regular business hours, Monday through Friday, except legal holidays at the following locations:

Lexington County Library
Cayce-West Columbia Branch
1500 Augusta Road
West Columbia, South Carolina 29169

SC DHEC
Bureau of Land and Waste Management
8911 Farrow Road
Columbia, SC 29203

Any comments on the proposed corrective action and/or requests for a public hearing should be sent to:

Richard Haynes, P.E., Director
Division of Waste Management
South Carolina Department of Health and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201
Phone: (803) 896-4070

Email: haynesra@dhec.sc.gov

To be considered, all requests and/or comments must be received in writing no later than August 23 , 2009, at which time the forty-five (45) day public comment period will end.

FACILITY DESCRIPTION

The CMC Steel-South Carolina facility is located at 310 New State Road in Cayce, Lexington County, South Carolina. Steel production began at the facility in 1961. From 1961 to 1994 the facility name was Owen Electric Steel. In 1994, the facility was purchased by Commercial Metals Company (CMC) and renamed SMI Steel-South Carolina only to later be changed to CMC Steel-South Carolina. At the facility, an electric arc furnace (EAF) is used to melt recycled scrap metal that is recast as billets. The billets are made into reinforcing bars, rounds and angles for the construction industry. As a result of EAF operations, a dust is produced. The dust is collected in large fabric filtration devices, commonly referred to as baghouses. From the baghouses the filtered air vents to the atmosphere and the collected dust is disposed off-site or recycled.

SITE HISTORY

From 1965 to 1983, Owen Electric Steel (OES) placed EAF baghouse dust in a 1.8 acre waste pile located at the site (EAF Dust Landfill in Figure 1). Closure of the waste pile began in 1986 and ended in 1989. Closure of the waste pile consisted of removing as much EAF dust and contaminated soil from beneath the dust pile as possible. The excavated material was replaced with clean soil. Due to groundwater contamination from metals in the waste pile, and the probability of contaminated soils remaining beneath the waste pile, "clean closure" of the waste pile was not possible; therefore, the waste pile was covered with a low-permeability cover and closed as a landfill. Because the baghouse dust was a hazardous waste, the EAF Dust Landfill is considered a hazardous waste unit in accordance with Resource Conservation and Recovery Act (RCRA) Regulations. A RCRA post-closure care permit is currently in effect for the EAF Dust Landfill. The permit requires monitoring of groundwater in the vicinity of the Landfill, inspections, and maintenance of the Landfill cover, if necessary.

Monitoring of groundwater in the vicinity of the Landfill indicates a steady decrease in metals to levels that are either below or approaching groundwater cleanup standards. This decrease is a result of covering the former waste pile and natural processes in the groundwater (**natural attenuation**). The area of groundwater contamination from the Landfill is restricted to the area around the Landfill and is not migrating off-site. The RCRA permit requires continued monitoring of natural attenuation of metals in the groundwater around the landfill, institutional controls to restrict groundwater use at the site, and the preparation of a contingency plan. The contingency plan will require additional assessment and consideration of additional corrective measures for groundwater in the event that natural attenuation does not continue to reduce the concentration of metals to acceptable levels.

Concurrent with the closure and permitting of the EAF Dust Landfill the Environmental Protection Agency and SC DHEC conducted a RCRA Facility Assessment of the Site in 1987. The Assessment indicated the presence of 19 Solid Waste Management Units (SWMUs) and 3 Areas of Concern (AOCs). Between 1987 and 1995, another SWMU and 6 AOCs were identified. In 2005, CMC reported to SC DHEC the existence of SWMU #25, a soil stockpile located near the site across Godley Street. A RCRA Facility Investigation (RFI) consisting of several phases was conducted for all SWMUs and AOCs between 1995 and 2008. Based on the data collected from the RFI, CMC Steel submitted a Corrective Measures Study (CMS) Report to DHEC on December 26, 2008. The CMS provides a determination of which SWMUs and AOCs require corrective action and proposes corrective measures for 16 SWMUS and AOCs at the site. These 16 SWMUs and AOCs and the corrective measures proposed for them are discussed in detail in the next section, Proposed Corrective Action for Solid Waste Management Units.

PROPOSED CORRECTIVE ACTION FOR SOLID WASTE MANAGEMENT UNITS

Based on the results of the RFI, the Corrective Measures Report (CMS) proposes corrective measures for sixteen SWMUs and AOCs at the site. A list of these units and the corrective measures proposed for them are summarized in Table 1. A history of the SWMUs and AOCs and a description of the recommendations for final corrective action are provided as follows:

SWMUs 1-5 & AOC B

SWMUs 1,2,3,4 and 5 consist of the Whiting Baghouse System, Heroult Baghouse System, Lectromelt Baghouse System, Canopy Hood Baghouse System, and the Baghouse Dust Collection Areas, respectively. AOC B consists of the Potential Electric Arc Furnance Dust Area. These units are clustered together in the south central portion of the site (Figure 1). Baghouse dust that was released in these areas resulted in cadmium and lead contamination of shallow soils. From 1996 to 1999, CMC implemented an interim measures plan at SWMUs 1-5 and AOC B that consisted of the removal of hazardous waste from the ground surface and the excavation and off-site disposal of contaminated soils. These interim measures were conducted in phases of excavations with the initial phases resulting in soil cleanup to residential standards for lead and cadmium. Later phases resulted in soil cleanup to residential standards for cadmium and industrial standards for lead. In total, the interim measures resulted in the removal of 8877 tons of hazardous waste and 14288 tons of contaminated soil. The CMS Report recommends that the **Soil Excavation and Off-site Disposal** already completed for the interim measures discussed above be selected as the final corrective measure for SWMUs 1 through 5 and AOC B.

In the past lead and cadmium have been detected in groundwater monitoring wells around SMWUs 1-5 & AOC B at levels as high as a thousand times the Federal Drinking Water Standard. However, the effect of soil excavation and natural processes in groundwater (natural attenuation) have resulted in lead and chromium levels decreasing to below Drinking Water Standards. The CMS Report proposes **Monitored Natural Attenuation** as the corrective measure for groundwater at SWMUs 1-5 & AOC B to verify that natural processes continue to maintain the levels of lead and cadmium at acceptable levels. In addition, the CMS Report proposes to implement **Institutional Controls** that would further protect human health by restricting the use of groundwater at the site.

SWMUs 8 & 9

SWMU 8 (Initial Settling Pond) and SWMU 9 (Final Settling, Cooling and Collection Pond) are located east of SWMUs 1-5 and AOC B (Figure 1). During the RFI, surface water and sediment samples were collected from the ponds and analyzed for metals, volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs) and petroleum hydrocarbons. The sampling results indicated levels of metals, VOCs, SVOCs, and petroleum hydrocarbons above natural background conditions. In 1997 CMC excavated sludge from both ponds as an interim measure and to allow for capital improvements of the site.

The CMS Report recommends **Soil Excavation and Off-site Disposal** already completed for SWMUs 8 & 9 as the proposed corrective measure. Due to their proximity, the corrective measures proposed for groundwater at SWMUs 1-5 and AOC 8 will also provide a monitoring network for groundwater around SWMUs 8 & 9.

SWMUs 21a and 21b

SWMUs 21a (Northern Electrical Power Trench) and 21b(Southern Electrical Power Trench), located in the southeastern portion of the site (Figure 2), were discovered in 1997 during an excavation to install an electrical conduit to supply power to a new roll mill. Used baghouse filter bags and visibly contaminated soil were excavated and disposed of as hazardous waste. Excavation of contaminated soil continued until the levels of lead and cadmium left in the ground met cleanup standards protective of industrial worker health. A total of 421 tons of soil contaminated with lead and cadmium were excavated and disposed off-site. The CMS Report recommends the **Soil Excavation and Off-site Disposal** already completed as the proposed corrective measure for SWMUs 21a and 21b soils; the proposed corrective measures for groundwater are **Monitored Natural Attenuation** and **Institutional Controls (groundwater use restrictions)**.

SWMU 22

SWMU 22 (Electric Dust Burial Area West of Shipping Building) is located in the southwestern portion of the site (Figure 2). Construction activities in 2000 uncovered this unit that consisted of used baghouse filter bags and soils contaminated with cadmium and lead. As an interim measure, 146 tons of filter bags and visibly contaminated soils were removed and disposed of as a hazardous waste. Contaminated soils were excavated until cleanup goals protective of industrial worker health were achieved for lead and cadmium. The CMS proposes that the interim measure **(Soil Excavation and Off-site Disposal)** completed in 2000 serve as final corrective measure along with **Monitored Natural Attenuation and Institutional Controls** as the proposed corrective action for groundwater.

SWMU 23

SWMU 23 (Off-Spec Mill Scale Waste Pile) consists of an approximate 35,000 square foot area in the northwestern portion of the site where mill scale material for two former cooling ponds was placed in 1997 (Figure 2). Chemical analyses of the mill scale material detected elevated levels of arsenic, chromium, iron and manganese. An interim measure was initiated in 2006 to remove the waste pile material and underlying contaminated soils. Approximately 26,000 tons of waste and contaminated soil were excavated and disposed of off-site. Analyses of soil samples collected from SWU 23 after the excavation indicated that the interim measures had cleaned up metals in the soil to levels protective of industrial worker health. Soil samples were also collected around SWMU 23 to verify that the cleanup around SWMU was complete. A

monitoring well was installed near the former waste pile to determine any impacts to groundwater. Testing of groundwater from this well indicated that past waste disposal in SWMU 23 had not caused groundwater contamination. For SWMU 23, the CMS Report recommends the interim measure (**Soil Excavation and Off-site Disposal**) already completed as the final corrective measure.

SWMU 24

SWMU 24 consists of the Roll Mill Straightener Baghouse Dust Collection Area located in the southern portion of site (Figure 2). Elevated metals (arsenic, chromium, and manganese) were detected in the shallow soils of SWMU 24 due to dust deposits from an exterior dust collection area associated with the baghouse. An interim measure was initiated in 2008 and resulted in the excavation and off-site disposal of 327 tons of soil. Analysis of soil samples collected from SWMU 24 after the excavation indicated that the interim measure was effective in cleaning up the metals in SWMU 24 to levels protective of industrial worker health. A monitoring well was installed within SWMU 24 to determine any impacts to groundwater. Testing of groundwater from this well indicated that wastes in SWMU 24 had not caused groundwater contamination. For SWMU 24, the CMS Report recommends the interim measure (**Soil Excavation and Off-site Disposal**) already completed as the final corrective measure.

SWMU 25

SWMU 25 consists of an area where a large stockpile of soil was placed adjacent to the CMC-Cayce Recycle Facility located at 606 Godley Street (Figure 2). The stockpile measured 500 feet in length, 90 feet wide and 25 feet in height. The stockpile was the result of excavations associated with construction activities at the CMC facility in the late-1990's. Soil testing indicated the stockpile soils contained elevated levels of arsenic, chromium and lead, but were not a hazardous waste. An interim measure consisting of soil excavation and off-site disposal was implemented for SWMU 25 in 2008. Approximately 30,000 tons of soil were removed including a one-foot layer of soil beneath stockpile. Soil testing of SWMU 25 conducted after the stockpile was removed indicated that soils had been cleaned up to residential health standards. Testing of groundwater from monitoring wells installed around SWMU 25 indicated that the soil stockpile had not caused groundwater contamination. Interim measures were also conducted in a wetland area adjacent to SWMU 25. These measures consisted of excavating areas of elevated lead contamination in shallow wetland soils (6 inches to 1 foot below ground surface). Excavation of wetland soils resulted in the cleanup of lead to levels protective of residential health. The CMS Report proposes the interim measures conducted in 2008 for SWMU 25 (**Soil Excavation and Off-Site Disposal**) and adjacent wetlands serve as the proposed corrective measure.

AOC D

AOC D consists of a small area in the south-central portion of the site (Figure 1) where 20-30 cubic yards of petroleum contaminated soil were excavated and treated off-site. Monitoring of groundwater from wells near AOC D did not detect any evidence of groundwater contamination from petroleum hydrocarbons from AOC D. The CMS Report proposes that the completed soil excavation serve as the corrective measure for AOC D.

AOC F

AOC F (Hydrocarbon Release Area) consists of an area along the eastern boundary of the site. In 1990, liquid petroleum hydrocarbon was discovered in two monitoring wells. The suspected source of the hydrocarbon contamination is a release from former aboveground storage tanks at the site. The petroleum hydrocarbon in AOC F floats on top of the groundwater. Cleanup of the petroleum contamination was initiated in 1991 by the installation of four wells designed to pump the hydrocarbon out of the groundwater. An additional four wells have been added to the system since 1991. The lateral extent of the petroleum hydrocarbon has been defined. Movement of the hydrocarbon contamination is contained on-site by the current groundwater pumping. Petroleum hydrocarbon and contaminated groundwater is pumped from the 8 recovery wells and sent to an on-site oil/water separator. Petroleum hydrocarbon is skimmed from the separator and sent off-site for disposal. The remaining wastewater drains from the separator and is discharged to the City of Cayce publicly owned treatment works (POTW). The CMS proposes the existing groundwater pumping system serve as the final corrective measure for AOC F.

Table 1- List of Proposed Corrective Measures for SWMUs and AOCs

SWMU/AOC#	SWMU/AOC Name	Proposed Corrective Measure
1	Whiting Baghouse System	Soil Excavation and Off-site Disposal; monitored natural attenuation (MNA) for groundwater
2	Heroult Baghouse System	Soil Excavation and Off-site Disposal; monitored natural attenuation (MNA) for groundwater
3	Lectromelt Baghouse System	Soil Excavation and Off-site Disposal; monitored natural attenuation (MNA) for groundwater

4	Canopy Hood Baghouse System	Soil Excavation and Off-site Disposal; monitored natural attenuation (MNA) for groundwater
5	Baghouse Dust Collection System	Soil Excavation and Off-site Disposal; monitored natural attenuation (MNA) for groundwater
8	Initial Settling Pond	Soil Excavation and Off-site Disposal
9	Final Settling, Cooling and Collection Pond	Soil Excavation and Off-site Disposal
21a	Northern Electrical Power Trench	Soil Excavation and Off-site Disposal; monitored natural attenuation (MNA) for groundwater
21b	Southern Electrical Power Trench	Soil Excavation and Off-site Disposal; monitored natural attenuation (MNA) for groundwater
22	Electric Dust Burial Area West of Shipping Building	Soil Excavation and Off-site Disposal; monitored natural attenuation (MNA) for groundwater
23	Off-Spec Mill Scale Wastepile	Soil Excavation and Off-site Disposal
24	Roll Mill Straightener Baghouse Dust Collection Area	Soil Excavation and Off-site Disposal
25	Soil Stockpile (Godley Street)	Soil Excavation and Off-site Disposal
AOC B	Potential Electric Arc Furnace Dust Spill Area	Soil Excavation and Off-site Disposal; monitored natural attenuation (MNA) for groundwater
AOC D	Roll Mill Ditch	Soil Excavation and Off-site Disposal
AOC F	Hydrocarbon Release Area	Groundwater Pumping

PUBLIC PARTICIPATION

To facilitate public participation in the corrective action process at the Site, the following actions have been taken:

- Established a local information repository
- Developed this Statement of Basis
- Prepared a mailing list and mailed this Statement of Basis, Fact Sheet and Public Notice to the facility mailing list

NEXT STEPS

Following the consideration of public comments by SC DHEC, a revised Final Decision and Response to Comments (FDRTC) accepting or rejecting the proposed corrective action will be issued.