



April 26, 2012

Mr. Dave Andrews  
On-Scene Coordinator  
U.S. Environmental Protection Agency Region 4  
61 Forsyth Street, SW  
Atlanta, Georgia 30303

**Subject: Final Bagged Asbestos Removal Work Plan  
Liberty Fibers Emergency Response  
EPA Contract No. EP-W-05-054 (START III Region 4)  
Technical Direction Document (TDD) No. TTEMI-05-001-0126**

Dear Mr. Andrews:

In accordance with your direction, the Tetra Tech, Inc. (Tetra Tech) Superfund Technical Assessment and Response Team (START) is submitting the enclosed final Bagged Asbestos Removal Work Plan to summarize activities to be conducted in support of the Liberty Fibers Emergency Response site located in Morristown, Hamblen County, Tennessee. This work plan provides a summary of the bagged asbestos removal activities as understood by Tetra Tech at the time of this submittal. Although Tetra Tech will not be responsible for implementation and enforcement of the work plan, we will monitor compliance with the plan on behalf of the U.S. Environmental Protection Agency (EPA) and provide technical support, including updating the work plan based on changes in operations and site conditions, as well as any appropriate modifications based on recommendations or direction from the EPA. Future removal activities not covered in this work plan will be addressed in subsequent work plans.

Please call me at (678) 775-3106 or Bryan Erickson at (816) 225-4030 if you have any questions regarding this report.

Sincerely,

A handwritten signature in black ink, appearing to read 'Paul Prys'.

Paul Prys  
START III Project Manager

A handwritten signature in black ink, appearing to read 'Andrew F. Johnson'.

Andrew F. Johnson  
START III Program Manager

Enclosure

cc: Katrina Jones, EPA Project Officer  
Brian Croft, Tetra Tech START III Task Order Manager  
Angel Reed, Tetra Tech START III Document Control Coordinator

**FINAL**  
**BAGGED ASBESTOS REMOVAL WORK PLAN**  
**LIBERTY FIBERS EMERGENCY RESPONSE**  
**MORRISTOWN, HAMBLLEN COUNTY, TENNESSEE**

Prepared for  
**U.S. ENVIRONMENTAL PROTECTION AGENCY**  
**Region 4**  
**Atlanta, Georgia 30303**



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TDD No.	:	TTEMI-05-001-0126
Date Prepared	:	April 26, 2012
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## CONTENTS

<b><u>Section</u></b>	<b><u>Page</u></b>
1.0 INTRODUCTION .....	1
1.1 Scope of Work .....	1
1.2 Background Information.....	2
2.0 ASBESTOS REMOVAL ACTIVITIES .....	4
2.1 Pre-removal preparations.....	5
2.2 Removal of Bagged Asbestos Waste from Structurally Stable Buildings .....	5
2.3 Waste Disposal.....	6
2.4 Entry and Exit of Work Areas.....	7
3.0 SCHEDULE .....	8
4.0 SITE MANAGEMENT .....	9
5.0 HEALTH AND SAFETY .....	10

## 1.0 INTRODUCTION

Under Superfund Technical Assessment and Response Team (START) Contract Number (No.) EP-W-05-054, Technical Direction Document (TDD) No. TTEMI-05-001-0126, the U.S. Environmental Protection Agency (EPA) tasked Tetra Tech EM Inc. (Tetra Tech) to prepare this final Bagged Asbestos Removal Work Plan to summarize activities to be conducted in support of the Liberty Fibers Emergency Response site located in Morristown, Hamblen County, Tennessee. This work plan provides a summary of the bagged asbestos removal activities as understood by Tetra Tech at the time of this submittal. Although Tetra Tech will not be responsible for implementation and enforcement of the work plan, we will monitor compliance with the plan on behalf of EPA and provide technical support, including updating the work plan based on changes in operations and site conditions, as well as any appropriate modifications based on recommendations or direction from EPA. The goal of this work plan is to define procedures to safely remove and dispose of bagged asbestos waste that has been stored in structurally stable buildings.

### 1.1 Scope of Work

EPA issued TDD No. TTEMI-05-001-0126 to conduct the removal and disposal of asbestos-contaminated demolition debris, associated contaminated soil, and damaged and exposed asbestos-containing materials throughout the site. Removal and disposal activities at the Liberty Fibers Emergency Response site will be performed in accordance with Title 40, Code of Federal Regulations (CFR), Section 61 (40 CFR 61), National Emission Standards for Hazardous Air Pollutants (NESHAP) and 29 CFR 1926.1101, Safety and Health Regulations for Construction, Toxic and Hazardous Substances, Asbestos, as well as Tennessee Department of Environment and Conservation (TDEC) Division of Air Pollution Control regulations. This work plan focuses on the removal and disposal of bagged asbestos-containing materials (ACM) that were stored in structurally stable buildings. Currently, the area referred to as the “Electrical Instrument Shop” is the only structurally stable building in which bagged ACM has been located. This building seems to be structurally stable and by all appearances safe to enter when proper personal protective equipment (PPE) is utilized. In the event bagged ACM is located in other structurally stable buildings, this work plan may be used as the template for future removals. Removal of bagged ACM will not be performed in damaged, structurally unstable buildings or in partially demolished buildings that are structurally unstable. This work plan will address the implementation of procedures for the removal and disposal of bagged ACM, as well as many of the health and safety concerns, including personnel decontamination. Future removal activities not covered in this work plan will be addressed in subsequent work plans.

## 1.2 Background Information

The Liberty Fibers Emergency Response site is located at 4855 Enka Highway, Morristown, Hamblen County, Tennessee. The site occupies approximately 300 acres and is bordered by a small residential community to the north, landfills and a retention pond to the east, the inactive nylon and polyester staple plants to the south, and a water treatment plant and farmland to the west.

The Liberty Fibers site is a former rayon fiber manufacturer. According to a briefing memorandum prepared by TDEC, Liberty Fibers filed for bankruptcy in September 2005. A&E Salvage Company (formerly J&N Salvage Company) bought the salvage rights to the Liberty Fibers property in October 2006. The salvage rights include any and all equipment and materials located on the property and the option to purchase the property.

In September 2006, TDEC, in coordination with the EPA, conducted a site visit in response to a tip TDEC received regarding demolition activities and the presence of hazardous materials, including polychlorinated biphenyls (PCBs) on site. During the site visit, TDEC observed approximately 24 transformers and 80 capacitors that were labeled as containing PCBs. Also in September 2006, the Commissioner of TDEC received a letter from the Mayor of Hamblen County expressing his concern about the potential for release of on-site PCBs, asbestos, and other chemicals during the ongoing salvage operations at the site. During a discussion among the EPA personnel, A&E Salvage Company personnel, a Liberty Fibers representative, the court-appointed trustee, and TDEC personnel in October 2006, A&E Salvage Company acknowledged that it was the owner of the PCB equipment and that it would accept full legal responsibility for proper removal and disposal of the PCB equipment in compliance with appropriate regulations.

A&E Salvage Company submitted a plan to the EPA in January 2007 for sampling and removal of all transformers and capacitors located on site. A&E Salvage Company contracted SD Myers to sample the dormant on-site transformers and capacitors and submit the samples for PCB analysis. The energized transformers and capacitors could not be sampled, however, until Morristown Utilities ran new service to the site. SD Meyers sampled 39 transformers: four transformers were found to contain PCBs, 12 units were found contaminated with PCBs, and 23 units did not contain PCBs. A&E Salvage Company also contracted Booher Industrial Company of Jasper, Georgia, to remove and dispose of the transformers;

however, the EPA later informed A&E Salvage Company that Booher Industrial Company was not an EPA-approved commercial storage and disposal facility for PCB-regulated waste.

In March 2007, A&E Salvage Company held a meeting with IPI Business and Morristown Utilities, during which the City of Morristown decided to annex the Liberty Fibers site and include the site as part of its Urban Growth Boundaries. As a result, the City of Morristown would be responsible for providing utility services, including power and water, to the Liberty Fibers site.

In March 2008, the EPA Resource Conservation and Recovery Act (RCRA) and Oil Pollution Act Enforcement and Compliance Branch contacted the Emergency Response and Removal Branch regarding conducting a removal assessment of the facility. EPA On-Scene Coordinator (OSC) Spurlin contacted the EPA and TDEC representatives involved with the facility to discuss the site and review documentation. OSC Spurlin, supported by Tetra Tech, as well as representatives from TDEC, the EPA Asbestos, the EPA RCRA Division, and the EPA Toxic Substances Control Act Enforcement programs, coordinated a site visit for March 20 and 21, 2008. The EPA and Tetra Tech were joined by Mr. Mark Sawyer, a local investor in A&E Salvage Company, and Mr. Tom Montgomery, a former employee of Liberty Fibers Corporation. During the site visit, the EPA and Tetra Tech observed several drums, totes, and tanks; bags labeled as “asbestos containing material”; a 50,000-gallon sulfuric acid tank containing approximately 8 inches of product; known and suspect PCB-containing articles and oils; suspect asbestos-containing material (ACM); and discolored soil throughout the property. In addition, Mr. Montgomery identified the on-site concrete vault that contains six 10,000-gallon tanks used to store carbon disulfide, an extremely flammable chemical used in manufacturing rayon. The vault is typically filled with water, submerging the tanks, to reduce the risk of fire and explosion. Mr. Montgomery also identified a leak in the western wall of the vault, as a result of which the tanks were only half submerged.

In December 2009, EPA OSC Gaughan, Tetra Tech personnel, and TDEC personnel conducted another site visit with Mr. Sawyer. During the site visit, Mr. Sawyer informed the EPA and Tetra Tech that the carbon disulfide tanks within the concrete vault had not contained any product, had been removed from the vault sometime in the spring of 2009, and had been sold for scrap metal. The tanks had been removed because of potential for explosion. Currently, the water that submerged the tanks remains in the vault. The Power Mechanical Shop contains bagged asbestos waste, and the Welding Shop contains PCB-contaminated transformers and capacitors. Although the facility was partially demolished, the debris fields - mixed with presumed asbestos-containing material (PACM) - remained. Recycling and

reclamation operations were ongoing, and at least one metals recycling business was currently operating on site.

From January 18 through 22, 2010, Tetra Tech START conducted a removal assessment (RA) of the site. The RA consisted of six primary objectives: collecting bulk asbestos samples; conducting a geophysical investigation in an attempt to identify the locations of possible buried transformers; collecting aqueous and solid waste samples from the carbon disulfide tank vault and surrounding area; collecting solid waste samples from two neutralization pits; collecting waste samples from on-site drums and totes; and collecting personal and area air samples for Phase Contrast Microscopy (PCM) analysis to evaluate the level of exposure of site personnel to airborne asbestos fibers during the assessment and to determine the level of concentration of airborne asbestos fibers that may be migrating off site.

On April 21, 2010, the EPA and Tetra Tech START conducted an emergency response site assessment in response to a debris fire on site. The fire occurred in the foundation of a demolished cooling tower located on the west side of the site. On April 29, 2010, Tetra Tech START conducted a visual assessment of presumed ACM in the remaining tenant buildings on site.

On March 17, 2011, the EPA and Tetra Tech START conducted a drainage assessment at the Liberty Fibers Rayon Plant and the potential effects on various buildings located at the Nylon Staples Plant.

## **2.0 ASBESTOS REMOVAL ACTIVITIES**

The asbestos removal activities conducted at the Liberty Fibers Emergency Response site identified in this work plan will be performed by CMC, Inc. (CMC), the EPA Emergency Response and Removal Services (ERRS) contractor. All CMC personnel involved with the bagged ACM removal activities in structurally stable buildings will be State of Tennessee-accredited asbestos workers and supervisors as appropriate based on their assigned tasks. The asbestos removal activities addressed in this work plan are as follows and will be discussed in the subsequent paragraphs:

- Pre-removal preparations
- Removal of bagged asbestos waste in the structurally stable buildings
- Waste disposal
- Entry and exit of work area

## **2.1 Pre-removal preparations**

In preparation for removal of bagged asbestos waste from structurally stable buildings at the Liberty Fibers Emergency Response site, CMC will procure six-millimeter (mil) thick plastic bags that are labeled in accordance with 29 CFR 1926.1101(k)(8) and of sufficient size and contrast so as to be readily visible and legible. CMC will determine which entrance to each structure is best suited for removing and loading of the bagged ACM into transport vehicles for disposal into the on-site landfill. CMC will line the bucket of a wheeled loader with a minimum of one layer of six-mil thick plastic drop cloth of sufficient size to enclose all bagged ACM loaded into it. CMC personnel will inspect each bag of ACM for tears and deterioration. Loose ACM in structurally stable building will be placed in a six-mil plastic bag, sufficiently wetted, and sealed with duct tape. All bags will be labeled in accordance with 29 CFR 1926.1101(k)(8) and of sufficient size and contrast so as to be readily visible and legible. CMC personnel will determine the appropriate equipment to be used for the removal of the bagged ACM that is not located on the ground level (i.e. stored above office ceilings). Bagged ACM not located on the ground level will need to be easily lowered so as not to cause damage or further damage to the bags. The bagged asbestos waste may not be dropped or thrown to the ground level.

## **2.2 Removal of Bagged Asbestos Waste from Structurally Stable Buildings**

Due to the unknown contents of the bags labeled as asbestos waste, the removal of bagged ACM and any miscellaneous ACM debris at the Liberty Fibers Emergency Response site will be defined as Class I work in accordance with 29 CFR 1926.1101. After the bucket of the wheeled loader has been lined with a minimum of one layer of six-mil plastic drop cloth, CMC will inspect each bag of ACM waste for tears or deterioration. If a bag appears intact (i.e. no signs of tears or deterioration) during the inspection process, it will be placed onto the six-mil plastic drop cloth in the bucket of the wheeled loader. If a bag appears to be torn or has started to deteriorate, the bag will be placed into one six-mil plastic bag, thoroughly wetted the inside of the bag, sealed with duct tape, and placed on the six-mil plastic drop cloth inside of the wheeled loader bucket. After each layer of bagged ACM has been placed in the wheeled loader bucket, CMC personnel will sufficiently spray each layer of bags with an approved encapsulant in order to lock down any fibers or small pieces of debris located on the exterior of the bags. Once the wheeled loader bucket is full, the edges of the six-mil plastic drop cloth will be brought together at one central point and sealed with duct tape. The six-mil plastic drop cloth will be sealed in a manner to completely enclose the bags inside and to prevent the drop cloth from opening when placed into the articulated dump truck for transport to the on-site landfill. CMC may use additional materials (i.e. zip ties, etc.) to provide

additional stability to the sealed end, as necessary. The exterior of the six-mil plastic drop cloth will be labeled in accordance with 29 CFR 1926.1101(k)(8) and of sufficient size and contrast so as to be readily visible and legible. The sealed six-mil plastic drop cloth containing the bagged ACM will be placed into an off-road articulated dump truck and transported to the on-site landfill for disposal. If transport to the on-site landfill is unavailable, CMC will stage the sealed six-mil plastic drop cloth containing the bagged ACM on a six-mil plastic tarp and covered until transport is available.

After all bagged asbestos waste is removed from a structurally stable building, CMC personnel will inspect the surfaces on which the bagged ACM was stored for any miscellaneous ACM that may have spilled out of torn or deteriorated bags. CMC personnel will thoroughly wet the miscellaneous ACM materials, place them in a six-mil-plastic bag, thoroughly wet the inside of the bag, and seal it with duct tape. All bags will be labeled in accordance with 29 CFR 1926.1101(k)(8) and of sufficient size and contrast so as to be readily visible and legible. These bags will be disposed of in the same manner as described in the above paragraph.

Once all bagged asbestos waste and miscellaneous materials have been removed from a structurally stable building, CMC personnel will seal the entrance used during removal with a minimum of two layers of six-mil plastic sheeting and will post an asbestos hazard warning sign so that is visible to the general public. The sign will be labeled with the information located in 29 CFR 1926.1101(k)(7).

CMC personnel will not decontaminate the inside of a structurally stable building where bagged ACM was stored. Future decontamination of these buildings will be determined by the EPA and addressed in a separate work plan.

### **2.3 Waste Disposal**

Waste generated during bagged asbestos removal activities will be disposed of in the landfill located approximately 0.3 miles east of the facility in a former on-site retention pond. Off-road articulating dump trucks will transport the sealed six-mil plastic drop cloth containing the bagged ACM to the landfill for disposal. The dump trucks will follow a designated route through the site to the landfill as identified by the EPA. CMC will record the number of truckloads, as well as the amount of bags deposited into the landfill each day. At the completion of each work day, CMC will cover the sealed six-mil plastic drop cloths containing the bagged ACM in such a manner as to prevent the release of airborne fibers (i.e. six inches of soil or an EPA-approved encapsulant).



All wastes generated by CMC personnel during general work and decontamination activities will be placed into a six-mil plastic bag and sufficiently wetted prior to sealing the bag with duct tape. The wastes will be placed into an off-road articulated dump truck for transport to the on-site landfill for disposal. If transport to the on-site landfill is unavailable, CMC will stage the disposal bags on a six-mil plastic tarp and covered until transport is available. All disposal bags will be labeled in accordance with 29 CFR 1926.1101(k)(8) and of sufficient size and contrast so as to be readily visible and legible.

Decontamination of tools and other equipment used during and associated wastes generated from the bagged asbestos waste removal operations are addressed in a separate site specific work plan.

## **2.4 Entry and Exit of Work Areas**

CMC personnel will enter and exit the work area (also known as the Exclusion Zone) through the Contamination Reduction Zone in accordance with 29 CFR 1926.1101 and the CMC site-specific health and safety plan (HASp). Each CMC employee will sign in and out prior to entering and after exiting the Exclusion Zone. Since all bagged ACM removal activities will be conducted outside and without a negative pressure containment, CMC will adopt different procedures for entry and exit of the work area for activities conducted in cold weather and in hot weather.

### **2.4.1 Entry and Exit of Work Areas During Cold Weather Activities**

During cold weather work activities, CMC personnel will enter into the clean change area wearing “street clothing” and steel-toed boots. All CMC personnel will place the following protective equipment over their clothing and steel-toed boots prior to entering the Exclusion Zone: two Tyvek<sup>®</sup> or similar protective suits with head covers; a full-face respirator fitted with P100 [formerly known as high-efficiency particulate air (HEPA)] cartridges; two layers of nitrile gloves; waterproof, disposable booties; and work gloves, if needed. Steel-toed boots may be replaced with steel-toed rubber boots that are easily decontaminated. Duct tape will be used to seal any openings located around the face, hands, and feet.

When exiting the Exclusion Zone through the Contamination Reduction Zone, CMC personnel will first shower and/or spray the outer protective suit and the disposable booties or steel-toed rubber boots with water to remove any gross contamination. If the disposable booties or steel-toed rubber boots need additional decontamination, CMC personnel will enter the boot wash area to remove all remaining debris

prior to entering the decontamination line. Outer protective suits, boot covers or steel-toed rubber boots, and gloves will be removed in the decontamination line outside of the equipment room and placed in a six-mil plastic bag for disposal. The inner protective suit will be removed in the equipment room and placed in a six-mil plastic bag for disposal. Prior to entering the shower area, CMC personnel will clean their “street clothing” using a HEPA vacuum, proceed to the shower room for additional decontamination, as needed, and then enter the clean room wearing their “street clothing”.

#### **2.4.2 Entry and Exit of Work Areas During Hot Weather Activities**

During hot weather work activities, CMC personnel will enter into the clean change area, remove “street clothing”, and dress in one Tyvek<sup>®</sup> or similar suit with head cover; full-face respirators fitted with P100 [formerly known as (HEPA)] cartridges; two layers of nitrile gloves; steel-toed boots covered with waterproof, disposable booties; two layers of nitrile gloves; and work gloves, if needed. Additional clothing, that is easily decontaminated, may be worn underneath the suits (i.e. swim wear or neoprene shorts) when appropriate. Steel-toed boots may be replaced with steel-toed rubber boots that are easily decontaminated. Duct tape will be used to seal any openings located around the hands and feet.

When exiting the Exclusion Zone through the Contamination Reduction Zone, CMC personnel will first shower and/or spray the outer protective suit and the disposable booties or steel-toed rubber boots with water to remove any gross contamination. If the disposable booties or steel-toed rubber boots need additional decontamination, CMC personnel will enter the boot wash area to remove all remaining debris prior to entering the decontamination line. Outer protective suits, boot covers or steel-toed rubber boots, and gloves will be removed in the decontamination line outside of the equipment room and placed in a six-mil plastic bag for disposal. The inner protective suit will be removed in the equipment room and placed in a six-mil plastic bag for disposal. CMC personnel will proceed to the shower room for additional decontamination and then enter the clean room to change back into their “street clothing”.

### **3.0 SCHEDULE**

CMC will provide a schedule of work activities to the EPA prior to the start of removal activities. The schedule will include the estimated number of days it will take to complete removal activities in a specific work area and the approximate quantity of waste to be removed. The schedule, as well as any necessary changes, will be approved by the EPA.

#### 4.0 SITE MANAGEMENT

The following list identifies key personnel associated with this project:

NAME	ORGANIZATION/ROLE	CONTACT INFORMATION
Mr. Dave Andrews	EPA Region 4 On-Scene Coordinator and Task Monitor	61 Forsyth Street SW, 11 <sup>th</sup> Floor Atlanta, GA 30303 (404) 562-8763 <a href="mailto:andrew.david@epa.gov">andrew.david@epa.gov</a>
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## 5.0 HEALTH AND SAFETY

CMC will provide accredited workers and supervisors that meet the requirements of 40 CFR 763, Appendix C to Subpart E, the EPA Model Accreditation Plan, and TDEC Chapter 1200-01-20 Asbestos Accreditation Requirements. CMC will implement medical surveillance and respiratory protection programs in accordance with 29 CFR 1926.1101 and 29 CFR 1910.134. Personal air monitoring will be conducted by designated CMC personnel during bagged asbestos removal activities. All personal air monitoring will be conducted in the breathing zone to assess potential exposures to airborne asbestos fibers. Additional information pertaining to site air monitoring is located in the CMC site-specific HASP.