

U.S. ENVIRONMENTAL PROTECTION AGENCY  
POLLUTION/SITUATION REPORT  
May 2010 Tennessee Floods – Removal POLREP



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
Region IV

**Subject:**  
**POLREP #37 & Final**  
**May 2010 Tennessee Floods**  
**Nashville, TN**

**From:** Steve Spurlin, On-Scene Coordinator  
**Date:** 7/14/2010  
**Reporting Period:** 0700 June 10, 2010 through 1900 July 6, 2010

## **1. Introduction**

### **1.1 Background**

<b>Response Authority:</b> Stafford Act	<b>Response Type:</b> Emergency
<b>Response Lead:</b> FEMA	<b>Incident Category:</b> ESF-10 Activities
<b>NPL Status:</b> Non NPL	<b>Start Date:</b> 5/3/2010
<b>Mobilization Date:</b> 5/3/2010	<b>Start Notification:</b> 5/2/2010

#### **1.1.1 Incident Category**

This is a response to severe flooding in portions of Western and Central Tennessee, which occurred due to heavy rains May 2 through May 3, 2010. As a result of the significant impacts from the flood, 46 counties were declared Federal disaster areas under the Stafford Act authority.

EPA led the Emergency Support Function 10 (ESF-10) activities under the Stafford Act Declaration for the flood recovery efforts in the Tennessee counties declared under the declaration.

#### **1.1.2 Site Description**

EPA has responded to extensive flooding in Central and Western Tennessee caused by heavy rain May 2 and May 3, 2010. Tennessee Emergency Management Agency (TEMA) activated their Emergency Operations Center (EOC) at the National Guard Armory in Nashville, TN. EPA Emergency Response and Removal Branch (ERRB) mobilized under a request from the Tennessee Department of Environment and Conservation (TDEC) under ESF-

10 to conduct Oil and Hazardous Substance Assessment and Recovery in the designated counties of Tennessee.

#### **1.1.2.1 Location**

EPA set up an Incident Command Post (ICP) in Nashville at the TEMA EOC with primary operations being conducted in Central Tennessee (Davidson and surrounding counties). When incident coordination moved from the State EOC to the Federal Emergency Management Agency (FEMA) established Joint Field Office (JFO), an EPA ESF-10 representative was located to the JFO. EPA's Incident Management Team remained at the State EOC, and the Region 4 Mobile Command Post (MCP) was set up at Cheatham Dam in Ashland City, Tennessee, to provide EPA field teams a forward base of operations.

#### **1.1.2.2 Description of Threat**

On May 2 through May 3, 2010, Central and Western Tennessee received approximately thirteen inches of rainfall, surpassing both six and twenty four hour record rainfall amounts. The excessive rainfall led to extensive flooding of river systems in Central and Western Tennessee. The flood impacted industrial/commercial facilities as well as residential properties. A variety of containers containing chemicals and oils were washed from these locations and deposited in the waterways and surrounding land. The chemicals and oils pose a risk to the environment and the public health should the release their contents.

## **2. Current Activities**

### **2.1 Operations Section**

#### **2.1.1 Narrative**

Throughout the incident, EPA coordinated with TEMA, FEMA, and TDEC to assess impacted areas for oil and hazardous material releases. EPA operations include recon and pickup of flood-related hazmat in Central Tennessee, on both land and water, with all personnel working under the direction of the EPA ICP at the State EOC. Hazardous materials discovered in impacted areas were collected, staged, and disposed or recycled at an approved facility.

#### **2.1.2 Response Actions to Date**

##### **Incident Command and Operations**

- EPA arrived in Nashville on May 3, 2010. Upon arrival, EPA met with members of TDEC, TEMA and FEMA to determine what actions needed to take place for flood relief under the ESF-10 directive.

- EPA set up an Incident Management Team (IMT) at the ICP in the TEMA EOC at the National Guard Armory to work closely with TDEC officials and to establish field objectives.
  - When the EOC moved to the Joint Field Office (JFO), an EPA ESF-10 representative was located in the JFO. EPA's field operations remained in the National Guard Armory.
  - A Mobile Command Post (MCP) was set up at Cheatham Dam along the Cumberland River to serve as a base of operations for field teams conducting land and water recovery operations.
  - In addition, the following United States Coast Guard (USCG) units assisted in assessment and recovery operations: Sector Ohio Valley and Gulf and Pacific Strike Teams.
- Under the direction of the Incident Commander (IC), two teams were created to assess the forty-six declared disaster counties throughout Central and Western Tennessee. The roles of these teams in the initial phases of the response were to assess damage and to scope the size of the response.
  - The Central TN Assessment Team covered counties throughout Nashville along the Cumberland River and eastern side of the Tennessee River.
  - The Western TN Assessment Team covered counties throughout Memphis along the Mississippi River and western side of the Tennessee River.
  - Overflight capabilities were provided by Tennessee Highway Patrol and assessment activities along the Cumberland River in the early days were provided by Tennessee Wildlife Resource Agency (TWRA).
- The IC issued notices to local mariners regarding abandoned tanks and drums that may be floating in the Cumberland River. Mariners were advised to call EPA if they discovered such items.
- The EPA Facility Response Plan (FRP) and Risk Management Plan (RMP) database was cross referenced with a flood plain map to identify facilities that would require assessment for release or threat of release of hazardous materials.
  - Observed spills were boomed off and any oily-wastewaters were vacuumed and recycled or disposed of at an approved facility.
- Each location that was discovered during reconnaissance or reported by an assisting agency was recorded by data management. Facilities that had an

observed release or potential release of hazardous materials were followed up by EPA until the threat was diminished.

- EMA directors were contacted to inquire about facilities or locations of concern for hazardous materials release.
- Once the assessment phase of the mission was complete, the teams were divided into Land Recovery Operations and River Recovery Operations to recover waste that was reported throughout the assessment phase.
  - River Recovery operations began at Cheatham Dam and Old Hickory Dam.
  - Many debris fields containing items such as drums, fuel tanks and cylinders, were located throughout counties that bordered the Cumberland River.
  - Water bodies of concern included Bear Creek, Saline Creek, Lick Creek, Hickman Creek, Browns Creek, Whites Creek, Richland Creek, Mill Creek, Sam's Creek, Stone Creek, Big Creek, Dry Creek, Manskers Creek, Moccasin Creek, Wells Creek, Red River, Stones River, Harpeth River and Cumberland River located throughout the primary counties of concern.
- During the mission, information on locations that required cleanup were reported to EPA by TDEC, Nashville Metro Water Services, Nashville Metro Park Services, Cheatham Fire Department, US Coast Guard (USCG), TWRA, County Emergency Management Agency (EMA) directors, and through the National Response Center (NRC).
- During the recovery phase the primary counties of concern included Davidson County, Cheatham County, Montgomery County and Stewart County, all of which contain the Cumberland River and its tributaries.
- Throughout the recovery phase, ERRS crews conducted collection of flood related household hazardous waste (HHW) from counties that reported a need for pick up.
  - An HHW Collection Day was established for Jackson, Madison County with the help of TDEC and the county solid waste department.
  - HHW collections were completed at the Humphreys, Cheatham, and Stewart-Montgomery County landfills.
- All items recovered during operations were transported to one of two staging areas located in Joelton, TN and at the Cheatham Dam, a location provided to EPA by US Army Corps of Engineers. Recovered containers were segregated into appropriate waste categories. If possible, items were

recycled or returned to property owners. Items that could not be recycled were disposed of at EPA-approved facility.

- During the mission, EPA maintained contact with the media in regard to the mission under ESF-10.
  - A statement regarding the June 8<sup>th</sup> HHW collection drive by the FEMA JFO was published in the Jackson Sun newspaper in Madison County.
  - The IC met with a reporter from WSMV-TV, an NBC Channel 4 News station out of Nashville, TN to discuss on-going recovery activities.
- On June 9, the IC and LNO met with TEMA and TDEC at the JFO to discuss ESF-10 status and the anticipated demobilization of EPA resources by June 11, 2010. EPA proposed utilizing a local ERRS subcontractor, with Tennessee Outpost OSC Spurlin acting as point-of-contact, to address any additional ESF-10 related activities for the remainder of the mission period. The State concurred with the approach, and EPA's personnel and equipment demobilized on June 11<sup>th</sup>.
- Prior to demobilizing, EPA ensured all open items were closed. A total of 568 open items were closed and 6,452 containers collected.
- Prior to the Direct Federal Assistance Mission end date of July 6, EPA received reports of several additional containers. Also, a request to conduct collection of flood related HHW at Cheatham, Stewart, and Montgomery landfill collection points was received. EPA recovered the reported containers and material from the landfills resulting in a final container collection count of 8389.
- To allow adequate time to arrange for disposal of the remaining material staged at the Cheatham Dam, a Direct Federal Mission Assignment amendment to extend the project end date to July 20, 2010 was processed. All remaining material was transported to the appropriate facility on July 6, 2010.
- During the assessment activities, several large debris fields containing orphaned containers were observed. It was determined that some of these locations were located on Federal property. The information was forwarded to the US Army Corps of Engineers and the State of Tennessee for follow-up.
- Activated under an ESF-3 (Public Works and Engineering) subtask from the Army Corps of Engineers, EPA Region 4 deployed a waste water team and a drinking water team to the impacted area. The teams assisted the Tennessee Department of Environment and Conservation in assessing flood related damage to water infrastructure.

## JFO Activities

- EPA maintained a presence at the FEMA JFO to establish a liaison between EPA and FEMA and TDEC.
- EPA Liaison also participated in weekly debris meetings chaired by Tennessee Department of Transportation (TDOT) and the following participating agencies: FEMA, USACE, TDEC and TEMA.
- The EPA JFO Liaison provided a contact for other federal agencies, including the Army Corps of Engineers and the National Forest Service to the EPA IC to forward open item information to the appropriate federal property owner for follow-up by the federal agency.
- After the initial response, FEMA issued a Mission Assignment to EPA for ESF-14 (Long Term Community Recovery). EPA Smart Growth program members worked onsite to provide local government and business leaders with guidance in the recovery process. EPA shared recommendations on recovery strategies focused on preserving natural lands and critical environmental areas.

The following table provides a summary of the quantities of HHW generated from the HHW Collection Day held in Jackson, Madison County, Tennessee.

QTY	U/M	Waste Category
1	55 gal	Inorganic Acid
1	55 gal	Alkaline Liquids
3	55 gal	Flammable Liquids, bulk
6	55 gal	Oily Water, bulk
26	Cu Yd	Paint (cubic yards)
2	55 gal	Non-Regulated
3	55 gal	Aerosols, flammable
4	55 gal	Pesticides
1	5 gal	Mercury Compound (5 gal)
1	55 gal	Oxidizer
1	5 gal	Oxidizer (5 gal)
1	Pallet	Pallet Auto Batteries
1	5 gal	Ammonia
2	5 gal	Alkaline Batteries
3	5 gal	Nickel Cadmium Batteries
1	5 gal	Organic Acid

The following table provides a summary of the number and types of containers recovered to date. Disposal facilities information can be found under the documents tab of the website [www.epaossc.org/2010TNFloods](http://www.epaossc.org/2010TNFloods).

Containers	Oily Water Shipped ( 5,000 G Tankers )	30 cubic yard roll-offs of debris	Propane	Cylinders	Large Containers ( > 85G )	Drums ( 85-30G )	Small Containers ( < 30G )
Collected during this reporting period (06/10)	0	0	12	2	1	21	204
Collected to date	5	2	237	65	63	404	7620

**ESF-10 hazmat open and closed items to date:**

- 0 open items
- 568 closed items

**Total locations referred to other agencies:**

- USACE – 44 locations
- TDEC – 3 locations

**Total river miles assessed: 118 RM**

## **2.2 Planning Section**

### **2.2.1. On Going Activities**

There are no current activities. All material collected has been transported to the appropriate facility.

#### **2.2.1.1. Anticipated Activities**

There are no further anticipated activities under ESF-10.

## **2.3 Logistics**

## **2.4 Finance Section**

### **2.4.1 Narrative**

FEMA issued:

- Mission Assignment No. 1909DR-TN-EPA-01 (FOS) on May 6, 2010 in the amount of \$100,000 for assessment activities;
- Mission Assignment No. MA1909DR-TN-EPA-02 (DFA) on May 6, 2010, in the amount of \$575,000 for continued assessments and removal in support of ESF-10;
- Mission Assignment No. 1909DR-TN-COE-LRD-04 to EPA under ESF-3 in the amount of \$360,000 for support and technical assistance. EPA accepted this mission assignment on May 8, 2010;
- Mission Assignment amendment to MA1909DR-TN-EPA-02 (DFA) to extend the projected end date to July 6, 2010;
- Mission Assignment No. 1909DR-TN-EPA-04 on May 7, 2010 in the amount of \$275,000 for technical assistance;
- Mission Assignment amendment to MA1909DR-TN-EPA-04 (TA) on May 21, 2010 increasing it to \$775,000 and end date to July 6, 2010; and
- Mission Assignment amendment to MA1909DR-TN-EPA-02 (DFA) on May 25, 2010 for an increase of \$882,500 and end date to July 6, 2010.
- Mission Assignment amendment to MA1909DR-TN-EPA-02 (DFA) to extend the projected end date to July 20, 2010;

#### Estimated Costs \*

<b>Extramural Costs</b>				
START – OTIE	\$140,000.00	\$101,431.00	\$38,569.00	27.55%
START – TTEMI	\$139,000.00	\$106,571.00	\$32,429.00	23.33%
ERRS – WRS	\$500,000.00	\$436,422.00	\$63,578.00	12.72%
ERRS - CMC	\$300,000.00	\$225,817.00	\$74,183.00	24.73%
U.S. Coast Guard Strike Team	\$20,000.00	\$11,600.00	\$8,400.00	42.00%
G2	\$5,000.00	\$4,000.00	\$1,000.00	20.00%
<b>Subtotal</b>	<b>\$1,104,000.00</b>	<b>\$885,841.00</b>	<b>\$218,159.00</b>	<b>19.76%</b>
<b>Intramural Costs</b>				
USEPA – Direct	\$350,000.00	\$247,100.00	\$102,900.00	29.40%
<b>Total Site Costs*</b>	<b>\$1,454,000.00</b>	<b>\$1,132,941.00</b>	<b>\$321,059.00</b>	<b>22.08%</b>



\* The above accounting of expenditures is an estimate based on figures known to the OSC at the time this report was written. The OSC does not necessarily receive specific figures on final payments made to any contractor(s). Other financial data which the OSC must rely upon may not be entirely up-to-date. The cost accounting provided in this report does not necessarily represent an exact monetary figure which the government may include in any claim for cost recovery.

### **3. Participating Entities**

#### **3.1 Unified Command**

The Federal Emergency Management Agency (FEMA) established a Joint Field Office (JFO) in the Nashville area, and moved incident coordination to the FEMA JFO. EPA located an EPA ESF-10 Liaison Officer at the JFO during the ESF-10 activities.

#### **3.2 Cooperating and Assisting Agencies**

EPA worked closely with TDEC and other supporting Agencies. TWRA assisted EPA with water assessment and the Tennessee Highway Patrol provided helicopter over flight services to EPA.

### **4. Personnel On Site**

EPA - 3  
START - 1  
ERRS - 23

### **5. Definition of Terms**

### **6. Additional Sources of Information**

#### **6.1 Internet location of additional information/reports**

EPA will post other information published on this incident under the documents tab of the website [www.epaosc.org/2010TNFloods](http://www.epaosc.org/2010TNFloods).

#### **6.2 Reporting Schedule**

EPA plans no further reports for this incident. Incident information can be found in the Documents section of the above listed website.