

# **Appendix F:**

## **ENVIRONMENTAL CONSTRAINTS**

# Environmental Overview

**Underground Storage Tank/Hazardous Materials, Air Quality,  
Traffic Noise, and Aquatic and Terrestrial Ecosystems  
I-265, Gene Snyder Freeway  
Louisville, Jefferson County, Kentucky**

*Prepared for*  
**Parsons Brinckerhoff, Inc.**

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Environmental Analysis & Restoration

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Appendix A – Environmental Data Resources (EDR) Database Information
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**I. INTRODUCTION**

Third Rock Consultants, LLC (Third Rock) was retained by Parsons Brinckerhoff, Inc. to perform an Environmental Overview to identify resources related to underground storage tank/hazardous materials, air quality, traffic noise, and aquatic and terrestrial ecosystems, for the proposed I-265 (Gene Snyder Freeway) corridor project. The project is a strategic corridor programming study to identify and evaluate improvements to I-265 (Gene Snyder Freeway) from I-65 to the new East End Bridge in Louisville, Kentucky. The study focuses on identifying short-term improvements that can be quickly and effectively implemented as well as long-term solutions by examining the future transportation needs and determining options for future improvement projects. The Study Corridor incorporates I-265 from I-65 to the new East End Bridge. The interchanges located along the corridor are included in the study as well. The Study Corridor includes the right-of-way (access limits) along the mainline of I-265 expanding out to a 250 foot buffer on each side of the mainline centerline. The proposed project is shown on Exhibits 1 through 4, pages 2 through 5.

**II. UNDERGROUND STORAGE TANKS / HAZARDOUS MATERIALS**

**A. Methodology**

A Third Rock Environmental Professional utilized a desktop data review and limited cursory site reconnaissance to assess potential underground storage tank and hazardous material concerns related to the project. The desktop data review was conducted in an effort to identify potential recognized environmental conditions located within the Study Corridor in which a recognized environmental condition is defined as follows:

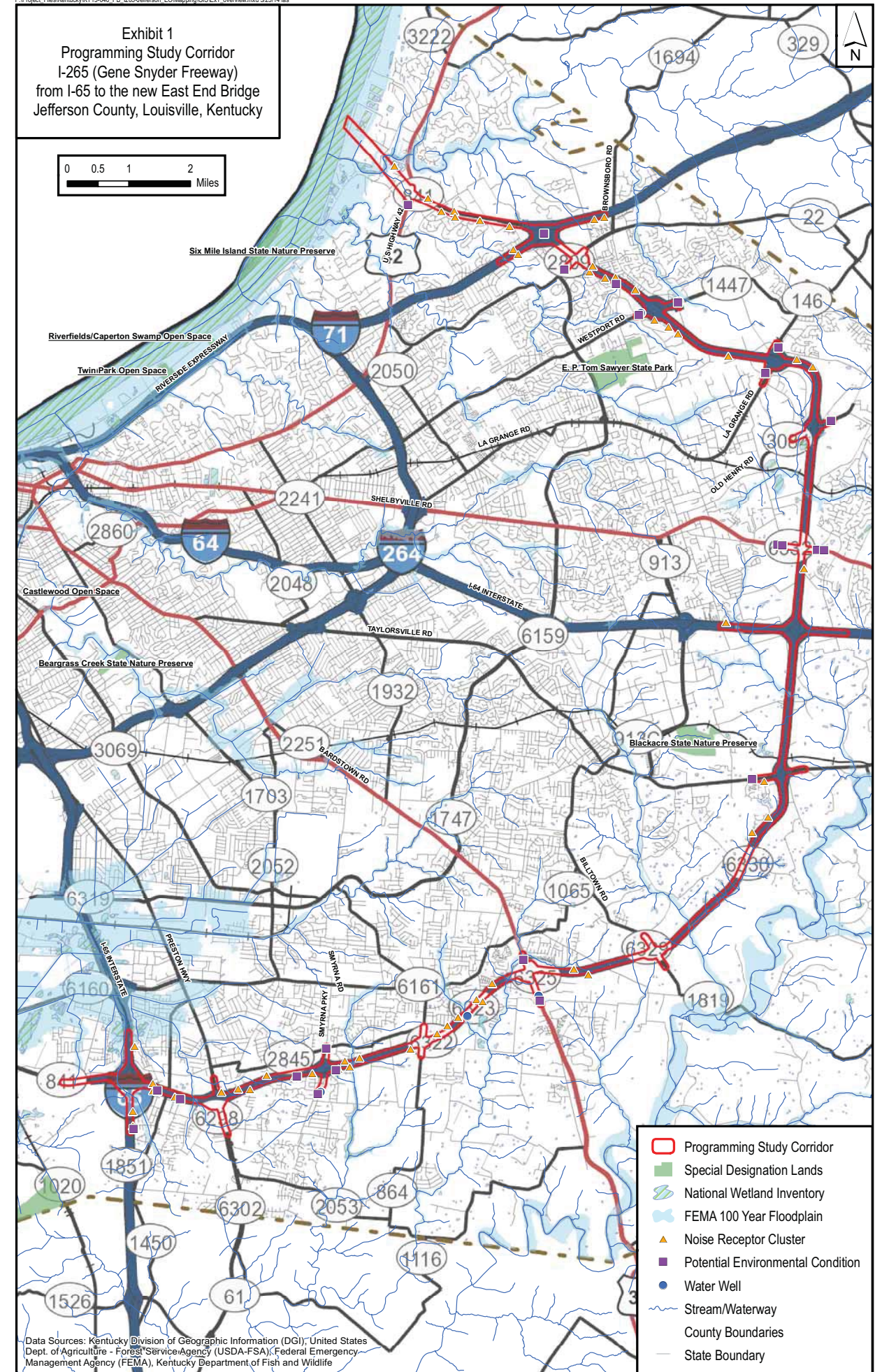
*The presence or likely presence of any Hazardous Substances or Petroleum Products on a Property under conditions that indicate an existing release, a past release, or a material threat of a release of any Hazardous Substances*

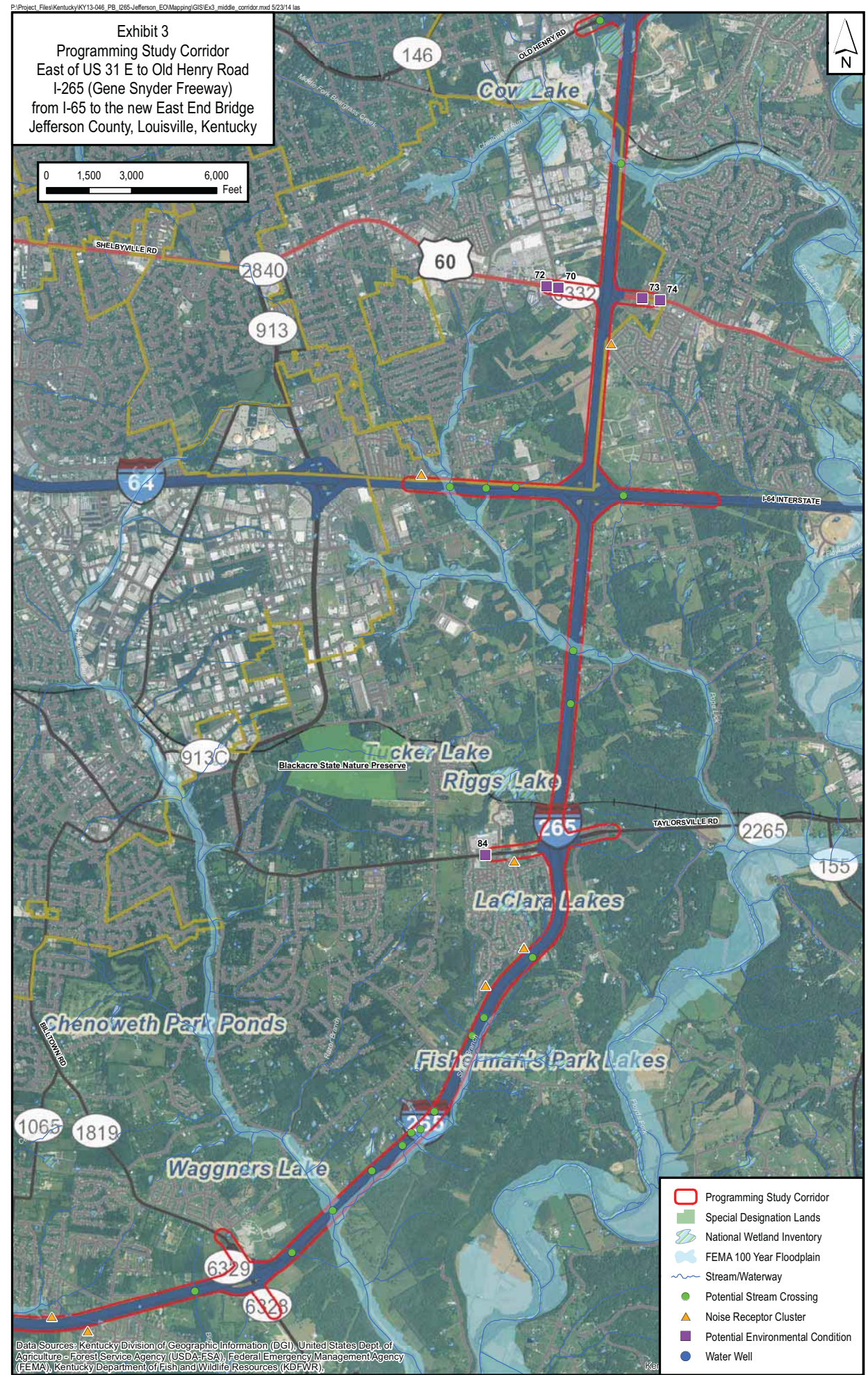
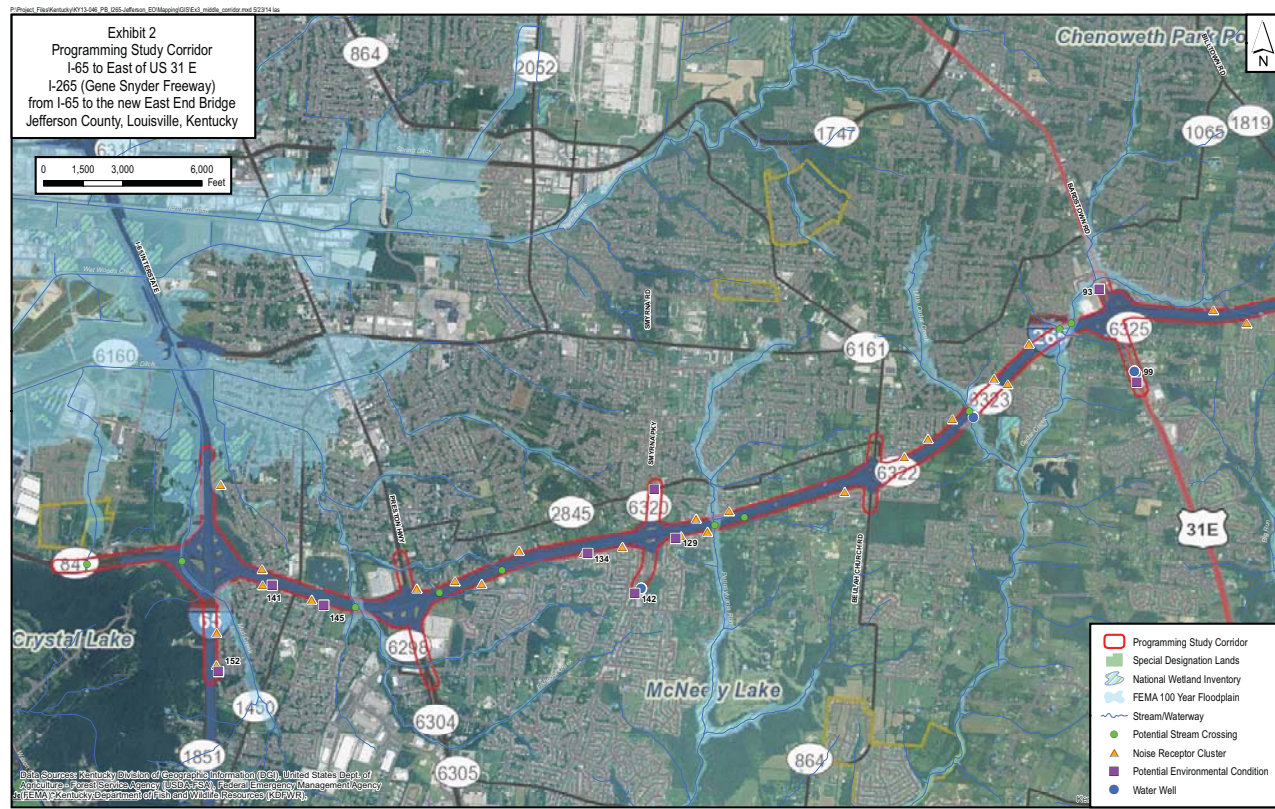
*or Petroleum Products into structures on the Property or into the ground, groundwater, or surface water of the Property. The term includes Hazardous Substances or Petroleum Products even under conditions in compliance with laws. The term is not intended to include de minimis conditions that generally do not represent a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. (Phase I Environmental Site Assessment Process, ASTM Standard E-1527-05).*

**B. Database Search**

Environmental Data Resources, Inc. (EDR) was contacted to provide an electronic review of applicable environmental databases located within the Study Corridor. Various databases were researched, including those pursuant to ASTM standards. A copy of the databases researched and the associated acronyms is included in Appendix A.

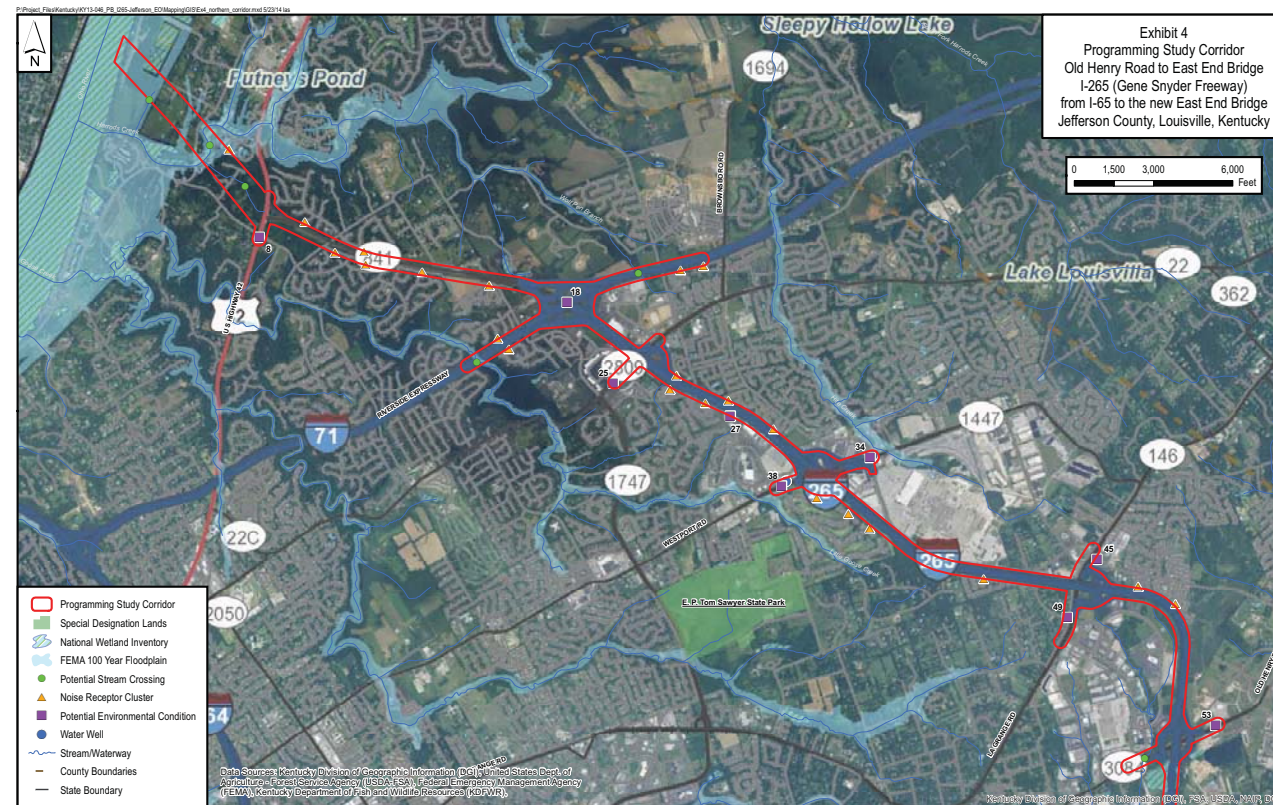
The database search resulted in the identification of a total of 37 mapped facilities of potential environmental significance located within the Study Corridor. Numerous other facilities were identified by the EDR report; however, based upon the database listing, the additional sites are not expected to represent an environmental condition and are thus not included in this overview. A list of the facilities identified by EDR that potentially represent an environmental condition are included in Table 1, pages 6 and 7.





**TABLE 1 – POTENTIAL UST SITES OF CONCERN**

MAP ID	SITE	ADDRESS	DATABASE
8	No Name	8801 US 42, Prospect KY	LEAD
18	BS Express Diazinon Spill	Intersection of I-71 & I-265, Louisville KY	CERCLIS, PRP
25	Old Brownsboro Crossing	9607 Brownsboro Road, Louisville KY	KY SHWS
27	Kahuna 225 Cleaners	3554 Springhurst Boulevard, Louisville KY	EDR Hist Cleaners
34	Ford KY Truck Plant	3001 Chamberlain Lane, Louisville KY	CERC-NFRAP, PCB Transformer, KY SHWS, KY UST, RCRA-LQG, TRIS, PADS, ERNS, ICIS
38	Target Store # 1071	4101 Towne Center Drive, Louisville KY	RCRA-LQG
45	Highland Cleaners	12418 Lagrange Road, Louisville KY	EDR Hist Cleaners
45	Thorton Oil Corp # 31	12412 Lagrange Road, Louisville KY	UST
45	Clean 1 Cleaners	12907 Factory Lane, Louisville KY	EDR Hist Cleaners
45	Alexander Residence	12910 Factory Lane, Louisville KY	SHWS
45	Kroger Fuel L-739	13003 Factory Lane, Louisville KY	UST
49	No Name	2803 South Winchester Acres Road, Louisville KY	LEAD
53	Sam Meyers Cleaners	2300 Terra Crossing Boulevard, Louisville KY	EDR Hist Cleaners
72	Eastland BP Gas Stations	13208 Shelbyville Road, Louisville KY	EDR Hist Auto Stations
70	Midtown Auto Connection Auto Repair	211 N. English Station Road, Louisville KY	EDR Hist Auto Stations
70	Louisville Water Company - Middletown Substation	209 N. English Station Road, Louisville KY	UST
70	Thorton Oil Corp # 95	13314 Shelbyville Road, Louisville KY	EDR Hist Auto Stat, UST
73	The Hogan Group	13802 Shelbyville Road, Louisville KY	SHWS
74	The Cleanery	14043 Shelbyville Road, Louisville KY	EDR Hist Cleaners, RCRA-CESQG
74	Dairymart # 235	14041 Shelbyville Road, Louisville KY	UST, SB 193
74	Green Horizons Organic Compost Facility	Shelbyville Road, Louisville KY	SWF/LF, Hist LF
84	Sam Meyers Cleaners	12613 Taylorsville Road, Louisville KY	EDR Hist Cleaners
84	Kroger	12611 Taylorsville Road, Louisville KY	UST
93	Valvoline Instant Oil Change	7150 Cedar Springs Boulevard, Louisville KY	EDR Hist Auto Stat, RCRA-CESQG
93	Murphy Oil USA # 6793	7100 Cedar Springs Boulevard, Louisville KY	UST
99	Halls Service	7701 Bardstown Road, Louisville KY	EDR Hist Auto Stat, UST
99	Newton's Corvettes Auto Repair	7703 Bardstown Road, Louisville KY	EDR Hist Auto Stat
99	BP Kiel Brothers Oil	7723 Bardstown Road, Louisville KY	EDR Hist Auto Stat, UST



MAP ID	SITE	ADDRESS	DATABASE
	Company		
99	Cedar Creek Baptist Church	9901 Brentlinger Road, Louisville KY	SHWS
118	Manslick Laundromat	6416 Manslick Road, Louisville KY	EDR Hist Cleaners
118	Valero	6403 E Manslick Road, Louisville KY	UST
141	Leach Property	3810 Freedom Way, Apartment 18, Louisville KY	SHWS, CDL
129	Lewis Auto Truck Service	8910 Lantana Drive, Louisville KY	EDR Hist Auto Stat
129	Lyvers Property	9001 Leslee Court, Louisville KY	SHWS, CDL
134	Redmon Performance Center	9102 Glass Slipper Court, Louisville KY	EDR Hist Auto Stat
145	Arms Property	9613 Caven Avenue, Louisville KY	SHWS, CDL
152	PMR Property	245 Whisp Brook Circle, Louisville KY	SHWS, CDL
142	Sav-A-Step # 50	9260 Symrna Road, Louisville KY	UST, SB 193

Additionally, 169 orphan sites were identified by the EDR report as being potentially located within the Study Corridor based on poor or inadequate address information. The orphan sites are presumably located along the I-265 corridor; however, their exact locations are not known. Additional research is recommended regarding the precise location of the orphan sites when project alternatives are developed.

**C. Oil, Gas, and Water Wells**

The presence of water wells should be expected throughout the entire Study Corridor.

Information provided by the Kentucky Geological Survey indicates that at least 18 water wells are potentially located within the Study Corridor. The location of the water wells positioned within the Study Corridor are shown on Exhibit 1, page 2.

No oil or gas wells are mapped within the Study Corridor, though many are positioned just outside the Study Corridor limits. The possibility of encountering such wells should be considered.

**D. Waste Disposal**

There are no permitted waste disposal facilities located within the Study Corridor.

**E. Underground Storage Tanks**

The underground storage tank (UST) and hazardous material concerns for this project are similar to those of any proposed highway development. Active and abandoned UST sites can be expected along any major roadway within the Study Corridor. It can be assumed that numerous convenience stores and gas stations with UST potential are located within the Study Corridor, particularly along the major intersections with I-265. The EDR report identified 18 such active and former UST sites located along the I-265 corridor. It is possible that automotive repair shops not identified by the EDR report are present throughout the Study Corridor that could also represent UST potential. Further investigation into the locations of USTs is recommended once project alternatives are developed.

**F. Site Reconnaissance**

A cursory site investigation (windshield survey) was conducted on October 9, 2013 to verify the

findings of the EDR database report. Major Study Corridor roadways were driven during the windshield survey. The findings of the EDR report were confirmed to be accurate as numerous gas stations were observed at the various interchanges with I-265. A more detailed Study Corridor examination is recommended as part of a Phase I Underground Storage Tank/Hazardous Materials Baseline Assessment conducted once project alternatives have been developed.

**III. AIR QUALITY**

The study corridor is in the Louisville Interstate Air Quality Control Region. This project is not listed in the latest (FY 2013-2016) Statewide Transportation Implementation Program (STIP). Additionally, there are currently no required traffic control measures (TCMs) in the State Implementation Plan (SIP). Jefferson County is an attainment area for 8-hour Ozone, is a non-attainment area for PM<sub>2.5</sub>, and is currently in attainment for PM<sub>10</sub>. Though a portion of Jefferson County is a non-attainment area for sulfur dioxide (effective October 4, 2013), the study corridor is not within the non-attainment area. The potential impact of the project related to each criteria pollutant is described below.

**A. Carbon Monoxide (CO)**

According to the *Kentucky Guidelines for Addressing Transportation Air Quality in NEPA Documents* (FHWA & KYTC 2008), this project does not meet the criteria requiring a CO project level analysis and will not produce a projected violation of the CO standards (35 parts per million over a 1-hour period or 9 parts per million over an 8-hour period since the project does not include a signalized intersection with a projected open to traffic year average daily traffic [ADT] greater than 80,000 vehicles per day). CO emissions are typically concentrated near intersections, where queuing and idling of vehicles occurs. There are 15 interchanges within the study corridor, but none are expected

to be signalized interchanges with ADT greater than 80,000 vehicles per day. However, if a project is controversial, a CO project level analysis can be required.

**B. Lead (Pb)**

Lead has not been a mobile source concern since tetraethyl lead was banned as a fuel additive in 1995. All areas in Kentucky are in attainment for lead and the proposed project is not anticipated to impact this status.

**C. Nitrogen Oxides (NO<sub>x</sub>) and Ozone (O<sub>3</sub>)**

Ground level ozone (O<sub>3</sub>) is created by chemical reactions between nitrogen oxides (NO<sub>x</sub>) and volatile organic compounds (VOC) in the presence of sunlight. Urban and industrial areas are considered the primary sources of NO<sub>x</sub> and VOC. All areas in Kentucky are in attainment for nitrogen dioxide (NO<sub>2</sub>).

The study corridor was within a maintenance area for 8-hour ozone with respect to 1997 Ozone national ambient air quality standards (NAAQS), but in April 2012, EPA established that the 1997 8-hour ozone standard would be vacated following the implementation of the 2008 Ozone NAAQS. Jefferson County is now in attainment to the current 2008 Ozone NAAQS. There are currently no TCMs in the SIP.

**D. Sulfur Dioxide (SO<sub>2</sub>)**

Sulfur dioxide (SO<sub>2</sub>) is primarily an industrial source concern and generally not a mobile source concern. A portion of Jefferson County is considered non-attainment for the SO<sub>2</sub> NAAQS (2010); however, this project corridor is not within the non-attainment area, thus sulfur dioxide for this area will not be a project-level concern.

**E. Particulate Matter (PM)**

Jefferson County is in non-attainment for PM<sub>2.5</sub> (1997), thus, PM<sub>2.5</sub> will be a project-level concern. Currently there are no TCMs included in the SIP. The PM<sub>2.5</sub> checklist and Interagency Consultation

verifications must be completed and added to subsequent NEPA documents. Interagency coordination will determine whether a specific project is of local air quality concern regarding PM<sub>2.5</sub> and if a hot-spot analysis will be required.

All areas in Kentucky are in attainment for PM<sub>10</sub>. The conformity procedures set forth in 23 CFR 770 regarding PM<sub>10</sub> do not apply to this project at this time.

#### **F. Mobile Source Air Toxics (MSAT)**

Controlling air toxic emissions has become a national priority. Detailed information on this subject can be found in the memorandum regarding *Interim Guidance Update on Mobile Source Air Toxic Analysis in NEPA Documents* located in Appendix B. The FHWA has developed a tiered approach for addressing mobile source air toxics (MSAT) effects. The three categories for analyzing MSAT in NEPA documents are listed below:

- No analysis for projects with no potential for meaningful MSAT effects
- Qualitative analysis for projects with low potential MSAT effects
- Quantitative analysis to differentiate alternatives for projects with higher potential MSAT effects

Each category has specific parameters that must be met and determined based on the type of project, the amount of traffic projected, the proximity to populated areas, etc. It is not feasible to determine if the proposed project will generate meaningful MSAT effects at this time. Any project components that result in appreciable changes in traffic volumes or vehicle mix could cause an increase in MSAT emissions. However, MSAT emissions will likely be lower than present levels in the design year as a result of the US Environmental Protection Agency (USEPA)'s national control programs that are projected to reduce annual MSAT emissions by

over 80 percent between 2010 and 2050. Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. However, the magnitude of the EPA-projected reductions is so great (even after accounting for VMT growth) that MSAT emissions in the Study Corridor are likely to be lower in the future.

#### **G. Cumulative and Indirect Impacts**

Indirect air quality impacts on urban, commercial, and residential areas along the project corridor cannot be determined at this time. As future traffic volumes increase, access is improved, and traffic patterns change due to project components, air quality within the project vicinity could be affected. Also, additional growth within the corridor associated with roadway improvements should be anticipated.

#### **H. Summary**

The study corridor is within the Louisville Interstate Air Quality Control Region. This project is not listed in the latest (FY 2013-2016) STIP. There are currently no required TCMs in the SIP. The project is located in a PM<sub>2.5</sub> non-attainment area, thus future work required for this project includes completion of the PM<sub>2.5</sub> checklist and Interagency Consultation to determine whether a PM<sub>2.5</sub> hot-spot analysis is required. Additionally, future work should confirm that the project meets CO screening criteria and that a CO hot-spot analysis is not needed. Likewise, project-specific MSAT analysis must be completed. As specific projects are identified within the corridor, those projects should be identified within the TIP and STIP.

#### **IV. TRAFFIC NOISE**

The Federal Highway Administration (FHWA) Noise Standard requires that noise abatement measures be considered when traffic noise impacts are identified. Vehicle tires, engines, and exhaust propagate noise at levels dependent upon the volume, speed, percentage of trucks,

and the slope of the roadway. These traffic noises are measured in decibels in the A-scale (dBA). The A-scale is designed to best approximate the way noise is heard by the human ear. Due to the logarithmic nature of noise measurements, a three dBA increase in the noise level represents a doubling in the noise level, but this increase is barely detectible by the human ear. A 10 dBA increase is perceived as a doubling of the noise level. Noise levels decrease in proportion with the square of the distance from the source such that a 4.5 dBA decrease is usually achieved when the distance from the roadway is doubled (FHWA 2011).

According to the FHWA, traffic noise impacts occur when the predicted traffic noise levels approach (are within one dBA) or exceed the noise abatement criteria (NAC) or when the predicted traffic noise levels substantially exceed the existing noise level. The noise abatement criteria are established to address traffic noise levels that interfere with speech communication. Noise Abatement Criteria are broken into seven activity categories (A to G) by description of land use and evaluation location (exterior or interior). Activity Category B, C, E, F, and G receptors are located within the project area with the potential for some Activity Category D (interior use) receptors. No criteria are established for Activity Categories F and G, which include manufacturing, retail, industry, and other similar facilities and undeveloped land, respectively, because they are not noise sensitive. A higher NAC threshold is established for Activity Category E receptors, which includes exterior areas of developed lands such as hotel pools and restaurant patios. However, there are an abundance of the more sensitive Activity Category B and C receptors in the vicinity of the project. Activity Category B includes exterior areas of frequent human use at single or multifamily homes and mobile home parks where traffic noise would interfere with normal conversation such as on balconies, patios, or in

backyards. Activity Category C includes exterior areas of non-residential lands such as schools, parks, hospitals, churches, recreation areas, cemeteries, day cares, and other similar land uses.

Based on noise propagation principles, traffic noise is not usually a serious problem for receptors more than 500 feet from heavily traveled freeways or more than 100 to 200 feet from lightly traveled roads (FHWA 2011).

Where noise impacts occur, Kentucky Transportation Cabinet (KYTC) guidelines state that noise abatement measures should be considered. In order to be implemented, noise abatement measures must be both reasonable and feasible. Noise barriers are generally not reasonable for localized impacted receptors; however, if a large number of impacted receptors are located in close proximity to the project and each other, the cost per benefited receptor is often low enough that a noise barrier is reasonable. During any future Phase 1 design, all noise sensitive receptors within 500 feet of the project have to be assessed to determine whether impacts are predicted and if so whether noise abatement is feasible and reasonable. For the purposes of this overview clusters of noise receptors in close proximity to the project have been identified in lieu of all potential noise sensitive receptors on Exhibits 1 through 4, pages 2 through 5. While impacts may occur outside of these identified areas, these areas are most likely to have reasonable and feasible noise barriers if impacts are predicted.

**V. AQUATIC AND TERRESTRIAL ECOSYSTEMS**

The Study Corridor is located within agricultural cropland, pasture, suburban/residential areas, commercial/industrial parks, blocks of forest, forested stream riparian, and wetland.



**Forested Block at Western Terminus**

Third Rock biologists performed an aquatic and terrestrial windshield survey of the corridor on October 9, 2013. Topographic and aerial maps were utilized in order to facilitate a review of the project corridor. Habitats for federal and state listed species and water resources were documented via literature review, mapping efforts, and the windshield survey.

**A. Aquatic Resources**

While wetlands can be found throughout the Study Corridor, the largest concentrations occur in the southeastern portion of the corridor, between Billtown Road and I-64. A total of 33 National Wetland Inventory (NWI) wetlands totally approximately 30.2 acres are found within the corridor. They include freshwater ponds, lakes, emergent, and forested wetland types.

The Environmental Protection Agency's (EPA) environmental review tool NEPAAssist (EPA, 2012) identified 10 stream crossings present in the Study Corridor. Nine of these crossings occur south of the I-265/I-64 intersection. The United

States Geologic Survey's National Hydrography Dataset (NHD) indicates that there are potentially 34 streams located within the programming study area (Exhibits 2 through 4, pages 3 through 5). At a later date, field verification of streams will be required to determine the exact number of stream crossings to be impacted.



**Potential Emergent Wetland between Mile 18 & 19**

There are no wild and scenic rivers or special designation lands such as nature preserves, wildlife refuges, or wildlife management areas within the Study Corridor. Portions of the project corridor pass through the Federal Emergency Management Agency (FEMA) 100-year floodplain of multiple streams (Exhibit 1, page 2).

**B. Terrestrial Resources**

**1. Federally Listed Species**

The U.S Fish and Wildlife Service's Kentucky Ecological Services Field Office lists 19 Endangered, Threatened, Proposed, and Candidate Species in Jefferson County, Kentucky. They include; gray bat (*Myotis grisescens*), Indiana bat (*Myotis sodalis*), clubshell (*Pleurobema clava*), fanshell (*Cyprogenia stegaria*), fat pocketbook (*Potamilus capax*), orangefoot pimpleback (*Plethobasus cooperianus*), ring pink (*Obovaria retusa*), pink mucket (*Lampsilis abrupta*), sheepnose (*Plethobasus cyphyus*), rough pigtoe (*Pleurobema plenum*), rabbitsfoot (*Quadrula*

*cylindrica cylindrica*), spectaclecase (*Cumberlandia monodonta*), running buffalo clover (*Trifolium stoloniferum*), Kentucky glade cress (*Leavenworthia exigua* var. *lacinata*), interior least tern (*Sterna antillarum athalassos*), bald eagle (*Haliaeetus leucocephalus*), American burying beetle (*Nicrophorus americanus*), and Louisville cave beetle (*Pseudanophthalmus troglodytes*).

Through literature review, mapping efforts, and a windshield survey, habitat for six of the species was noted as potentially occurring within the larger project vicinity. Species include the federally endangered gray bat, Indiana bat, and running buffalo clover; the proposed threatened northern long-eared bat and Kentucky glade cress; and the candidate species Louisville cave beetle. Potential federally listed proposed, threatened and endangered species potentially present within the corridor may change pending receipt of agency coordination responses during any future Phase 1 design.

According to U.S Fish and Wildlife Service (USFWS) mapped IB summer habitat polygons (USFWS 2014), the northern extent of the project area falls within the 5 mile radius of a known "sensitive & maternity" summer habitat polygon and is within one mile of, but not inside, a 2.5 mile radius "non-maternity summer" polygon. A portion of the project area to the south also falls within the 5 mile radius of a known maternity location. Summer roosting habitat for the federally endangered Indiana bat and proposed endangered northern long-eared bat was identified within the Study Corridor during the windshield survey. The highest concentrations of Indiana bat and northern long-eared bat habitat are found at the western terminus of the corridor and in the southeastern portion of the corridor, between Billtown Road and I-64, where forested blocks dominate the landscape. Gray bat foraging and travel stream corridors have been identified within the study corridor at several

stream crossings, most of which are south of the I-265/I-64 interchange. During any future Phase 1 design all known cave and portal locations within 1 km have to be assessed to determine whether potential bat hibernacula may be impacted by the proposed project.

No habitat for the federally listed running buffalo clover, Kentucky glade cress, and Louisville cave beetle was observed during the windshield survey. The literature and mapping review indicates that no habitat for Kentucky glade cress or Louisville cave beetle exists within the study area, but critical habitat areas of Kentucky glade cress do exist outside of the project corridor to the south within McNeely Lake Park. Habitat for running buffalo clover is potentially present within the Study Corridor.



**Roadside Tree with Broken Limbs**



**Roadside Snag**



**2. State Threatened and Endangered Species**

Through literature review, mapping efforts, and a windshield survey it was determined that habitat for the following species listed by the Kentucky State Nature Preserves Commission (KSNPC) and Kentucky Department of Fish and Wildlife Resources (KDFWR) for Jefferson County may be present within the project corridor: king rail, pied-billed grebe, double-crested cormorant, black-crowned night-heron, hooded merganser, least bittern, bald eagle, peregrine falcon, little blue heron, lark sparrow, great egret, blue-winged teal, Bachman's sparrow, eastern slender glass lizard, Kirtland's snake, Alabama shad, northern metalmark, Louisville crayfish, Bousfield's amphipod, northern fox grape, Wood's bunchflower, Short's goldenrod, grassleaf arrowhead, pickerel-weed, Allegheny chinkapin, and Carolina fanwort. Potential state listed threatened and endangered species habitat present within the corridor may change pending receipt of agency coordination responses during any future Phase 1 design.

**REFERENCES**

Environmental Protection Agency. August 2012. <http://www.epa.gov/compliance/nepa/nepassist-mapping.html>. Accessed 10/18/13.

Federal Highway Administration (FHWA). 2011. "Highway Traffic Noise Analysis and Abatement Guidance." FHWA-HEP-10-025.

Federal Highway Administration (FHWA). 2010. Procedures for Abatement of Highway Traffic Noise and Construction Noise. (Code of Federal Regulations, Title 23, Part 772.)

Kentucky State Nature Preserves Commission. [http://naturepreserves.ky.gov/pubs/publications/KSNPC\\_countylist.pdf](http://naturepreserves.ky.gov/pubs/publications/KSNPC_countylist.pdf). October 2013.

Nature Serve. [www.natureserve.org/explorer/](http://www.natureserve.org/explorer/). October 2013.

Transportation Cabinet and Federal Highway Administration-KY. July 2008. Kentucky Guidelines for Addressing Transportation Air Quality in NEPA Documents.

US Department of Transportation and Federal Highway Administration. December 2012. Memorandum: Interim Guidance Update on Mobile Source Air Toxic Analysis in NEPA Documents.

US Department of Transportation and Federal Highway Administration. September 27, 2013. Internet. [http://www.fhwa.dot.gov/environment/air\\_quality/conformity/laws\\_and\\_regs/2008\\_standards.cfm](http://www.fhwa.dot.gov/environment/air_quality/conformity/laws_and_regs/2008_standards.cfm)

US Fish and Wildlife Service. <http://ecos.fws.gov/ipac/wizard/chooseLocation!prepare.action>. October 2013.

US Fish and Wildlife Service. February 2014. "Indiana Bat Habitat in Kentucky and Within 20 Miles."

**APPENDICES**

**APPENDIX A – ENVIRONMENTAL DATA RESOURCES (EDR)  
DATABASE INFORMATION**

**GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING**

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

**Number of Days to Update:** Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

**FEDERAL RECORDS**

**NPL: National Priority List**

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 04/26/2013	Source: EPA
Date Data Arrived at EDR: 05/09/2013	Telephone: N/A
Date Made Active in Reports: 07/10/2013	Last EDR Contact: 07/12/2013
Number of Days to Update: 62	Next Scheduled EDR Contact: 10/21/2013
	Data Release Frequency: Quarterly

**NPL Site Boundaries**

**Sources:**

EPA's Environmental Photographic Interpretation Center (EPIC)  
Telephone: 202-564-7333

EPA Region 1 Telephone 617-918-1143	EPA Region 6 Telephone: 214-655-6659
EPA Region 3 Telephone 215-814-5418	EPA Region 7 Telephone: 913-551-7247
EPA Region 4 Telephone 404-562-8033	EPA Region 8 Telephone: 303-312-6774
EPA Region 5 Telephone 312-886-6686	EPA Region 9 Telephone: 415-947-4246
EPA Region 10 Telephone 206-553-8665	

**Proposed NPL: Proposed National Priority List Sites**

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 04/26/2013	Source: EPA
Date Data Arrived at EDR: 05/09/2013	Telephone: N/A
Date Made Active in Reports: 07/10/2013	Last EDR Contact: 07/12/2013
Number of Days to Update: 62	Next Scheduled EDR Contact: 10/21/2013
	Data Release Frequency: Quarterly

**DELISTED NPL: National Priority List Deletions**

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 04/26/2013	Source: EPA
Date Data Arrived at EDR: 05/09/2013	Telephone: N/A
Date Made Active in Reports: 07/10/2013	Last EDR Contact: 07/12/2013
Number of Days to Update: 62	Next Scheduled EDR Contact: 10/21/2013
	Data Release Frequency: Quarterly

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

### NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991	Source: EPA
Date Data Arrived at EDR: 02/02/1994	Telephone: 202-564-4267
Date Made Active in Reports: 03/30/1994	Last EDR Contact: 08/15/2011
Number of Days to Update: 56	Next Scheduled EDR Contact: 11/28/2011
	Data Release Frequency: No Update Planned

### CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 04/26/2013	Source: EPA
Date Data Arrived at EDR: 05/29/2013	Telephone: 703-412-9810
Date Made Active in Reports: 08/09/2013	Last EDR Contact: 09/27/2013
Number of Days to Update: 72	Next Scheduled EDR Contact: 12/09/2013
	Data Release Frequency: Quarterly

### CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Date of Government Version: 04/26/2013	Source: EPA
Date Data Arrived at EDR: 05/29/2013	Telephone: 703-412-9810
Date Made Active in Reports: 08/09/2013	Last EDR Contact: 09/27/2013
Number of Days to Update: 72	Next Scheduled EDR Contact: 12/09/2013
	Data Release Frequency: Quarterly

### LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 02/06/2013	Source: Environmental Protection Agency
Date Data Arrived at EDR: 04/25/2013	Telephone: 202-564-6023
Date Made Active in Reports: 05/10/2013	Last EDR Contact: 07/24/2013
Number of Days to Update: 15	Next Scheduled EDR Contact: 11/11/2013
	Data Release Frequency: Varies

### CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 07/11/2013	Source: EPA
Date Data Arrived at EDR: 08/08/2013	Telephone: 800-424-9346
Date Made Active in Reports: 09/13/2013	Last EDR Contact: 08/08/2013
Number of Days to Update: 36	Next Scheduled EDR Contact: 10/14/2013
	Data Release Frequency: Quarterly

### RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 07/11/2013	Source: Environmental Protection Agency
Date Data Arrived at EDR: 08/08/2013	Telephone: (404) 562-8651
Date Made Active in Reports: 09/13/2013	Last EDR Contact: 08/08/2013
Number of Days to Update: 36	Next Scheduled EDR Contact: 10/14/2013
	Data Release Frequency: Quarterly

### RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 07/11/2013	Source: Environmental Protection Agency
Date Data Arrived at EDR: 08/08/2013	Telephone: (404) 562-8651
Date Made Active in Reports: 09/13/2013	Last EDR Contact: 08/08/2013
Number of Days to Update: 36	Next Scheduled EDR Contact: 10/14/2013
	Data Release Frequency: Quarterly

### RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 07/11/2013	Source: Environmental Protection Agency
Date Data Arrived at EDR: 08/08/2013	Telephone: (404) 562-8651
Date Made Active in Reports: 09/13/2013	Last EDR Contact: 08/08/2013
Number of Days to Update: 36	Next Scheduled EDR Contact: 10/14/2013
	Data Release Frequency: Quarterly

### RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 07/11/2013	Source: Environmental Protection Agency
Date Data Arrived at EDR: 08/08/2013	Telephone: (404) 562-8651
Date Made Active in Reports: 09/13/2013	Last EDR Contact: 08/08/2013
Number of Days to Update: 36	Next Scheduled EDR Contact: 10/14/2013
	Data Release Frequency: Varies

### RCRA NonGen / NLR: RCRA - Non Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 07/11/2013	Source: Environmental Protection Agency
Date Data Arrived at EDR: 08/08/2013	Telephone: (404) 562-8651
Date Made Active in Reports: 09/13/2013	Last EDR Contact: 08/08/2013
Number of Days to Update: 36	Next Scheduled EDR Contact: 10/14/2013
	Data Release Frequency: Varies

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

### US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 03/14/2013	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/29/2013	Telephone: 703-603-0695
Date Made Active in Reports: 05/10/2013	Last EDR Contact: 09/10/2013
Number of Days to Update: 42	Next Scheduled EDR Contact: 12/23/2013
	Data Release Frequency: Varies

### US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 03/14/2013	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/29/2013	Telephone: 703-603-0695
Date Made Active in Reports: 05/10/2013	Last EDR Contact: 09/10/2013
Number of Days to Update: 42	Next Scheduled EDR Contact: 12/23/2013
	Data Release Frequency: Varies

### ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/31/2012	Source: National Response Center, United States Coast Guard
Date Data Arrived at EDR: 01/17/2013	Telephone: 202-267-2180
Date Made Active in Reports: 02/15/2013	Last EDR Contact: 07/01/2013
Number of Days to Update: 29	Next Scheduled EDR Contact: 10/14/2013
	Data Release Frequency: Annually

### HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 12/31/2012	Source: U.S. Department of Transportation
Date Data Arrived at EDR: 01/03/2013	Telephone: 202-366-4555
Date Made Active in Reports: 02/27/2013	Last EDR Contact: 07/01/2013
Number of Days to Update: 55	Next Scheduled EDR Contact: 10/14/2013
	Data Release Frequency: Annually

### DOT OPS: Incident and Accident Data

Department of Transportation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/31/2012	Source: Department of Transportation, Office of Pipeline Safety
Date Data Arrived at EDR: 08/07/2012	Telephone: 202-366-4595
Date Made Active in Reports: 09/18/2012	Last EDR Contact: 08/05/2013
Number of Days to Update: 42	Next Scheduled EDR Contact: 11/18/2013
	Data Release Frequency: Varies

### US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 03/04/2013	Source: Drug Enforcement Administration
Date Data Arrived at EDR: 03/12/2013	Telephone: 202-307-1000
Date Made Active in Reports: 05/10/2013	Last EDR Contact: 09/04/2013
Number of Days to Update: 59	Next Scheduled EDR Contact: 12/16/2013
	Data Release Frequency: Quarterly

### US BROWNFIELDS: A Listing of Brownfields Sites

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 06/24/2013	Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/25/2013	Telephone: 202-566-2777
Date Made Active in Reports: 08/09/2013	Last EDR Contact: 09/24/2013
Number of Days to Update: 45	Next Scheduled EDR Contact: 01/08/2014
	Data Release Frequency: Semi-Annually

### DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005	Source: USGS
Date Data Arrived at EDR: 11/10/2006	Telephone: 888-275-8747
Date Made Active in Reports: 01/11/2007	Last EDR Contact: 07/19/2013
Number of Days to Update: 62	Next Scheduled EDR Contact: 10/28/2013
	Data Release Frequency: Semi-Annually

### FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 12/31/2011	Source: U.S. Army Corps of Engineers
Date Data Arrived at EDR: 02/26/2013	Telephone: 202-528-4285
Date Made Active in Reports: 03/13/2013	Last EDR Contact: 09/10/2013
Number of Days to Update: 15	Next Scheduled EDR Contact: 12/23/2013
	Data Release Frequency: Varies

### LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 12/09/2005	Source: Department of the Navy
Date Data Arrived at EDR: 12/11/2006	Telephone: 843-820-7326
Date Made Active in Reports: 01/11/2007	Last EDR Contact: 08/15/2013
Number of Days to Update: 31	Next Scheduled EDR Contact: 09/02/2013
	Data Release Frequency: Varies

### CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 12/31/2011	Source: Department of Justice, Consent Decree Library
Date Data Arrived at EDR: 01/15/2013	Telephone: Varies
Date Made Active in Reports: 03/13/2013	Last EDR Contact: 09/30/2013
Number of Days to Update: 57	Next Scheduled EDR Contact: 01/13/2014
	Data Release Frequency: Varies

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

### ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 12/18/2012	Source: EPA
Date Data Arrived at EDR: 03/13/2013	Telephone: 703-416-0223
Date Made Active in Reports: 04/12/2013	Last EDR Contact: 09/13/2013
Number of Days to Update: 30	Next Scheduled EDR Contact: 12/23/2013
	Data Release Frequency: Annually

### UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 09/14/2010	Source: Department of Energy
Date Data Arrived at EDR: 10/07/2011	Telephone: 505-845-0011
Date Made Active in Reports: 03/01/2012	Last EDR Contact: 05/28/2013
Number of Days to Update: 146	Next Scheduled EDR Contact: 09/09/2013
	Data Release Frequency: Varies

### DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009	Source: EPA, Region 9
Date Data Arrived at EDR: 05/07/2009	Telephone: 415-947-4219
Date Made Active in Reports: 09/21/2009	Last EDR Contact: 07/26/2013
Number of Days to Update: 137	Next Scheduled EDR Contact: 11/11/2013
	Data Release Frequency: No Update Planned

### ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985	Source: Environmental Protection Agency
Date Data Arrived at EDR: 08/09/2004	Telephone: 800-424-9346
Date Made Active in Reports: 09/17/2004	Last EDR Contact: 06/09/2004
Number of Days to Update: 39	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

### US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 02/05/2013	Source: Department of Labor, Mine Safety and Health Administration
Date Data Arrived at EDR: 04/18/2013	Telephone: 303-231-5959
Date Made Active in Reports: 05/10/2013	Last EDR Contact: 09/05/2013
Number of Days to Update: 22	Next Scheduled EDR Contact: 12/16/2013
	Data Release Frequency: Semi-Annually

### TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2011	Source: EPA
Date Data Arrived at EDR: 07/31/2013	Telephone: 202-566-0250
Date Made Active in Reports: 09/13/2013	Last EDR Contact: 08/30/2013
Number of Days to Update: 44	Next Scheduled EDR Contact: 12/09/2013
	Data Release Frequency: Annually

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

### TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2006	Source: EPA
Date Data Arrived at EDR: 09/29/2010	Telephone: 202-260-5521
Date Made Active in Reports: 12/02/2010	Last EDR Contact: 09/24/2013
Number of Days to Update: 64	Next Scheduled EDR Contact: 01/08/2014
	Data Release Frequency: Every 4 Years

### FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009	Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Date Data Arrived at EDR: 04/16/2009	Telephone: 202-566-1667
Date Made Active in Reports: 05/11/2009	Last EDR Contact: 08/22/2013
Number of Days to Update: 25	Next Scheduled EDR Contact: 12/09/2013
	Data Release Frequency: Quarterly

### FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009	Source: EPA
Date Data Arrived at EDR: 04/16/2009	Telephone: 202-566-1667
Date Made Active in Reports: 05/11/2009	Last EDR Contact: 08/22/2013
Number of Days to Update: 25	Next Scheduled EDR Contact: 12/09/2013
	Data Release Frequency: Quarterly

### HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/01/2007	Telephone: 202-564-2501
Date Made Active in Reports: 04/10/2007	Last EDR Contact: 12/17/2007
Number of Days to Update: 40	Next Scheduled EDR Contact: 03/17/2008
	Data Release Frequency: No Update Planned

### HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/01/2007	Telephone: 202-564-2501
Date Made Active in Reports: 04/10/2007	Last EDR Contact: 12/17/2008
Number of Days to Update: 40	Next Scheduled EDR Contact: 03/17/2008
	Data Release Frequency: No Update Planned

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

### SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009	Source: EPA
Date Data Arrived at EDR: 12/10/2010	Telephone: 202-564-4203
Date Made Active in Reports: 02/25/2011	Last EDR Contact: 07/24/2013
Number of Days to Update: 77	Next Scheduled EDR Contact: 11/11/2013
	Data Release Frequency: Annually

### ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 07/20/2011	Source: Environmental Protection Agency
Date Data Arrived at EDR: 11/10/2011	Telephone: 202-564-5088
Date Made Active in Reports: 01/10/2012	Last EDR Contact: 07/01/2013
Number of Days to Update: 61	Next Scheduled EDR Contact: 10/28/2013
	Data Release Frequency: Quarterly

### PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 11/01/2012	Source: EPA
Date Data Arrived at EDR: 01/16/2013	Telephone: 202-566-0500
Date Made Active in Reports: 05/10/2013	Last EDR Contact: 07/17/2013
Number of Days to Update: 114	Next Scheduled EDR Contact: 10/28/2013
	Data Release Frequency: Annually

### MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 03/14/2013	Source: Nuclear Regulatory Commission
Date Data Arrived at EDR: 03/20/2013	Telephone: 301-415-7169
Date Made Active in Reports: 07/10/2013	Last EDR Contact: 09/10/2013
Number of Days to Update: 112	Next Scheduled EDR Contact: 12/23/2013
	Data Release Frequency: Quarterly

### RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 04/09/2013	Source: Environmental Protection Agency
Date Data Arrived at EDR: 04/11/2013	Telephone: 202-343-9775
Date Made Active in Reports: 05/10/2013	Last EDR Contact: 07/12/2013
Number of Days to Update: 29	Next Scheduled EDR Contact: 10/21/2013
	Data Release Frequency: Quarterly

### FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 03/08/2013	Source: EPA
Date Data Arrived at EDR: 03/21/2013	Telephone: (404) 562-9900
Date Made Active in Reports: 07/10/2013	Last EDR Contact: 09/11/2013
Number of Days to Update: 111	Next Scheduled EDR Contact: 12/23/2013
	Data Release Frequency: Quarterly

### RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995	Source: EPA
Date Data Arrived at EDR: 07/03/1995	Telephone: 202-564-4104
Date Made Active in Reports: 08/07/1995	Last EDR Contact: 06/02/2008
Number of Days to Update: 35	Next Scheduled EDR Contact: 09/01/2008
	Data Release Frequency: No Update Planned

### RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 05/08/2012	Source: Environmental Protection Agency
Date Data Arrived at EDR: 05/25/2012	Telephone: 202-564-8600
Date Made Active in Reports: 07/10/2012	Last EDR Contact: 07/24/2013
Number of Days to Update: 46	Next Scheduled EDR Contact: 11/11/2013
	Data Release Frequency: Varies

### BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2011	Source: EPA/NTIS
Date Data Arrived at EDR: 02/26/2013	Telephone: 800-424-9346
Date Made Active in Reports: 04/19/2013	Last EDR Contact: 08/26/2013
Number of Days to Update: 52	Next Scheduled EDR Contact: 12/09/2013
	Data Release Frequency: Biennially

### PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 04/15/2013	Source: EPA
Date Data Arrived at EDR: 07/03/2013	Telephone: 202-564-6023
Date Made Active in Reports: 09/13/2013	Last EDR Contact: 07/03/2013
Number of Days to Update: 72	Next Scheduled EDR Contact: 10/14/2013
	Data Release Frequency: Quarterly

### 2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 11/11/2011  
Date Data Arrived at EDR: 05/18/2012  
Date Made Active in Reports: 05/25/2012  
Number of Days to Update: 7

Source: Environmental Protection Agency  
Telephone: 703-308-4044  
Last EDR Contact: 08/16/2013  
Next Scheduled EDR Contact: 11/25/2013  
Data Release Frequency: Varies

### LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931 and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001  
Date Data Arrived at EDR: 10/27/2010  
Date Made Active in Reports: 12/02/2010  
Number of Days to Update: 36

Source: American Journal of Public Health  
Telephone: 703-305-6451  
Last EDR Contact: 12/02/2009  
Next Scheduled EDR Contact: N/A  
Data Release Frequency: No Update Planned

### LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 01/29/2013  
Date Data Arrived at EDR: 02/14/2013  
Date Made Active in Reports: 02/27/2013  
Number of Days to Update: 13

Source: Environmental Protection Agency  
Telephone: 703-603-8787  
Last EDR Contact: 09/24/2013  
Next Scheduled EDR Contact: 10/21/2013  
Data Release Frequency: Varies

### FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 07/31/2012  
Date Data Arrived at EDR: 10/09/2012  
Date Made Active in Reports: 12/20/2012  
Number of Days to Update: 72

Source: Environmental Protection Agency  
Telephone: 703-603-8704  
Last EDR Contact: 07/08/2013  
Next Scheduled EDR Contact: 10/21/2013  
Data Release Frequency: Varies

### SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 03/07/2011  
Date Data Arrived at EDR: 03/09/2011  
Date Made Active in Reports: 05/02/2011  
Number of Days to Update: 54

Source: Environmental Protection Agency  
Telephone: 615-532-8599  
Last EDR Contact: 08/01/2013  
Next Scheduled EDR Contact: 11/04/2013  
Data Release Frequency: Varies

### US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 01/23/2013  
Date Data Arrived at EDR: 01/30/2013  
Date Made Active in Reports: 05/10/2013  
Number of Days to Update: 100

Source: EPA  
Telephone: 202-564-5962  
Last EDR Contact: 09/30/2013  
Next Scheduled EDR Contact: 01/13/2014  
Data Release Frequency: Annually

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

### US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 01/23/2013  
Date Data Arrived at EDR: 01/30/2013  
Date Made Active in Reports: 05/10/2013  
Number of Days to Update: 100

Source: EPA  
Telephone: 202-564-5962  
Last EDR Contact: 09/30/2013  
Next Scheduled EDR Contact: 01/13/2014  
Data Release Frequency: Annually

### EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 06/30/2013  
Date Data Arrived at EDR: 08/13/2013  
Date Made Active in Reports: 09/13/2013  
Number of Days to Update: 31

Source: Environmental Protection Agency  
Telephone: 617-520-3000  
Last EDR Contact: 08/07/2013  
Next Scheduled EDR Contact: 11/25/2013  
Data Release Frequency: Quarterly

### US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 03/04/2013  
Date Data Arrived at EDR: 03/15/2013  
Date Made Active in Reports: 05/10/2013  
Number of Days to Update: 56

Source: Environmental Protection Agency  
Telephone: 202-566-1917  
Last EDR Contact: 09/27/2013  
Next Scheduled EDR Contact: 12/02/2013  
Data Release Frequency: Quarterly

### US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 09/01/2007  
Date Data Arrived at EDR: 11/19/2008  
Date Made Active in Reports: 03/30/2009  
Number of Days to Update: 131

Source: Drug Enforcement Administration  
Telephone: 202-307-1000  
Last EDR Contact: 03/23/2009  
Next Scheduled EDR Contact: 06/22/2009  
Data Release Frequency: No Update Planned

### PCB TRANSFORMER: PCB Transformer Registration Database

The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 02/01/2011  
Date Data Arrived at EDR: 10/19/2011  
Date Made Active in Reports: 01/10/2012  
Number of Days to Update: 83

Source: Environmental Protection Agency  
Telephone: 202-566-0517  
Last EDR Contact: 08/02/2013  
Next Scheduled EDR Contact: 11/11/2013  
Data Release Frequency: Varies

### COAL ASH DOE: Sleam-Electric Plan Operation Data

A listing of power plants that store ash in surface ponds.

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 12/31/2005  
Date Data Arrived at EDR: 08/07/2009  
Date Made Active in Reports: 10/22/2009  
Number of Days to Update: 76

Source: Department of Energy  
Telephone: 202-586-8719  
Last EDR Contact: 07/19/2013  
Next Scheduled EDR Contact: 10/28/2013  
Data Release Frequency: Varies

FEMA UST: Underground Storage Tank Listing  
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/01/2010  
Date Data Arrived at EDR: 02/16/2010  
Date Made Active in Reports: 04/12/2010  
Number of Days to Update: 55

Source: FEMA  
Telephone: 202-646-5797  
Last EDR Contact: 07/19/2013  
Next Scheduled EDR Contact: 10/28/2013  
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List  
A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 08/17/2010  
Date Data Arrived at EDR: 01/03/2011  
Date Made Active in Reports: 03/21/2011  
Number of Days to Update: 77

Source: Environmental Protection Agency  
Telephone: N/A  
Last EDR Contact: 09/13/2013  
Next Scheduled EDR Contact: 12/23/2013  
Data Release Frequency: Varies

### STATE AND LOCAL RECORDS

KY SHWS: State Leads List

State Hazardous Waste Sites. State hazardous waste site records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. Available information varies by state.

Date of Government Version: 06/27/2013  
Date Data Arrived at EDR: 06/28/2013  
Date Made Active in Reports: 07/17/2013  
Number of Days to Update: 19

Source: Department of Environmental Protection  
Telephone: 502-564-6716  
Last EDR Contact: 09/03/2013  
Next Scheduled EDR Contact: 12/16/2013  
Data Release Frequency: Quarterly

IN SHWS: List of Hazardous Waste Response Sites Scored Using the Indiana Scoring Model  
State Hazardous Waste Sites. State hazardous waste site records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. Available information varies by state.

Date of Government Version: 03/01/2007  
Date Data Arrived at EDR: 08/27/2007  
Date Made Active in Reports: 09/18/2007  
Number of Days to Update: 22

Source: Department of Environmental Management  
Telephone: 317-308-3052  
Last EDR Contact: 09/03/2013  
Next Scheduled EDR Contact: 12/16/2013  
Data Release Frequency: Annually

IN SWF/LF: Permitted Solid Waste Facilities

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 06/03/2013  
Date Data Arrived at EDR: 06/17/2013  
Date Made Active in Reports: 06/28/2013  
Number of Days to Update: 11

Source: Department of Environmental Management  
Telephone: 317-232-0066  
Last EDR Contact: 09/30/2013  
Next Scheduled EDR Contact: 12/30/2013  
Data Release Frequency: Semi-Annually

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

KY SWF/LF: Solid Waste Facilities List

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 07/22/2013  
Date Data Arrived at EDR: 07/22/2013  
Date Made Active in Reports: 07/31/2013  
Number of Days to Update: 9

Source: Department of Environmental Protection  
Telephone: 502-564-6716  
Last EDR Contact: 07/19/2013  
Next Scheduled EDR Contact: 11/18/2013  
Data Release Frequency: Semi-Annually

IN NPDES: NPDES Permit Listing

A listing of active NPDES Permit Section facility locations.

Date of Government Version: 07/15/2013  
Date Data Arrived at EDR: 07/16/2013  
Date Made Active in Reports: 07/31/2013  
Number of Days to Update: 15

Source: Department of Environmental Management  
Telephone: 317-233-0676  
Last EDR Contact: 07/15/2013  
Next Scheduled EDR Contact: 10/28/2013  
Data Release Frequency: Varies

KY UIC: UIC Information

A listing of underground injection control wells.

Date of Government Version: 07/18/2013  
Date Data Arrived at EDR: 07/22/2013  
Date Made Active in Reports: 08/14/2013  
Number of Days to Update: 23

Source: Kentucky Geological Survey  
Telephone: 859-323-0544  
Last EDR Contact: 07/22/2013  
Next Scheduled EDR Contact: 11/04/2013  
Data Release Frequency: Quarterly

IN UIC: UIC Site Listing

A listing of class II well locations

Date of Government Version: 06/03/2013  
Date Data Arrived at EDR: 06/05/2013  
Date Made Active in Reports: 06/28/2013  
Number of Days to Update: 23

Source: Department of Natural Resources  
Telephone: 317-232-0045  
Last EDR Contact: 09/03/2013  
Next Scheduled EDR Contact: 12/16/2013  
Data Release Frequency: Varies

KY SWRCY: Recycling Facilities

A listing of recycling facilities located in the state of Kentucky.

Date of Government Version: 10/26/2010  
Date Data Arrived at EDR: 11/04/2010  
Date Made Active in Reports: 01/11/2011  
Number of Days to Update: 68

Source: Department of Environmental Protection  
Telephone: 502-564-6716  
Last EDR Contact: 07/26/2013  
Next Scheduled EDR Contact: 11/04/2013  
Data Release Frequency: Varies

IN SWRCY: Recycling Facilities

A listing of recycling facilities located in the state of Indiana.

Date of Government Version: 10/26/2009  
Date Data Arrived at EDR: 11/02/2009  
Date Made Active in Reports: 11/11/2009  
Number of Days to Update: 9

Source: Department of Environmental Management  
Telephone: 317-234-4050  
Last EDR Contact: 07/18/2013  
Next Scheduled EDR Contact: 11/04/2013  
Data Release Frequency: Varies

KY HIST LF: Historical Landfills

This solid waste facility listing contains detail information that is not included in the landfill listing. A listing with detail information is no longer available by the Department of Environmental Protection.



## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 05/01/2003  
Date Data Arrived at EDR: 03/30/2006  
Date Made Active in Reports: 05/01/2006  
Number of Days to Update: 32

Source: Department of Environmental Protection  
Telephone: 502-564-6716  
Last EDR Contact: 02/23/2009  
Next Scheduled EDR Contact: 05/25/2009  
Data Release Frequency: No Update Planned

**IN LUST: Lust Leaking Underground Storage Tank List**  
Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 05/14/2013  
Date Data Arrived at EDR: 06/04/2013  
Date Made Active in Reports: 06/28/2013  
Number of Days to Update: 24

Source: Department of Environmental Management  
Telephone: 317-232-8900  
Last EDR Contact: 09/04/2013  
Next Scheduled EDR Contact: 12/16/2013  
Data Release Frequency: Annually

**KY SB193: SB193 Branch Site Inventory List**  
The inventory indicates facilities that have performed permanent closure activities at a regulated underground storage tank facility and have known soil and/or groundwater contamination.

Date of Government Version: 09/05/2006  
Date Data Arrived at EDR: 09/13/2006  
Date Made Active in Reports: 10/18/2006  
Number of Days to Update: 35

Source: Department of Environmental Protection  
Telephone: 502-564-5981  
Last EDR Contact: 07/15/2013  
Next Scheduled EDR Contact: 10/28/2013  
Data Release Frequency: No Update Planned

**IN UST: Indiana Registered Underground Storage Tanks**  
Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 05/13/2013  
Date Data Arrived at EDR: 06/04/2013  
Date Made Active in Reports: 06/28/2013  
Number of Days to Update: 24

Source: Department of Environmental Management  
Telephone: 317-308-3008  
Last EDR Contact: 09/04/2013  
Next Scheduled EDR Contact: 12/16/2013  
Data Release Frequency: Quarterly

**KY UST: Underground Storage Tank Database**  
Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 05/14/2013  
Date Data Arrived at EDR: 06/04/2013  
Date Made Active in Reports: 07/17/2013  
Number of Days to Update: 43

Source: Department of Environmental Protection  
Telephone: 502-564-5981  
Last EDR Contact: 09/04/2013  
Next Scheduled EDR Contact: 12/16/2013  
Data Release Frequency: Quarterly

**IN DEL SHWS: Deleted Commissioner's Bulletin Sites List**  
A listing of sites deleted/removed from the Commissioner's Bulletin List

Date of Government Version: 04/03/2008  
Date Data Arrived at EDR: 04/04/2008  
Date Made Active in Reports: 04/14/2008  
Number of Days to Update: 10

Source: Department of Environmental Management  
Telephone: 317-234-0347  
Last EDR Contact: 09/03/2013  
Next Scheduled EDR Contact: 12/16/2013  
Data Release Frequency: Varies

**IN BULK: Registered Bulk Fertilizer and Pesticide Storage Facilities**  
A listing of registered dry or liquid bulk fertilizer and pesticide storage facilities.

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 04/01/2013  
Date Data Arrived at EDR: 04/09/2013  
Date Made Active in Reports: 04/30/2013  
Number of Days to Update: 21

Source: Office of Indiana State Chemist  
Telephone: 765-494-0579  
Last EDR Contact: 07/03/2013  
Next Scheduled EDR Contact: 10/21/2013  
Data Release Frequency: Varies

**IN MANIFEST: Manifest Data**  
Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 12/31/2011  
Date Data Arrived at EDR: 01/15/2013  
Date Made Active in Reports: 02/22/2013  
Number of Days to Update: 38

Source: Department of Environmental Management  
Telephone: 317-233-4624  
Last EDR Contact: 07/12/2013  
Next Scheduled EDR Contact: 10/21/2013  
Data Release Frequency: Annually

**KY SPILLS: State spills**  
A listing of spill and/or release related incidents.

Date of Government Version: 05/16/2013  
Date Data Arrived at EDR: 05/24/2013  
Date Made Active in Reports: 06/03/2013  
Number of Days to Update: 10

Source: DEP, Emergency Response  
Telephone: 502-564-2380  
Last EDR Contact: 07/18/2013  
Next Scheduled EDR Contact: 11/04/2013  
Data Release Frequency: Varies

**IN SPILLS: Spills Incidents**  
Oil, hazardous, or objectionable materials that may be released to soil and water.

Date of Government Version: 06/30/2013  
Date Data Arrived at EDR: 08/09/2013  
Date Made Active in Reports: 09/06/2013  
Number of Days to Update: 28

Source: Department of Environmental Management  
Telephone: 317-308-3038  
Last EDR Contact: 09/06/2013  
Next Scheduled EDR Contact: 12/16/2013  
Data Release Frequency: Semi-Annually

**KY ENG CONTROLS: Engineering Controls Site Listing**  
A listing of sites that use engineering controls.

Date of Government Version: 06/26/2013  
Date Data Arrived at EDR: 06/26/2013  
Date Made Active in Reports: 07/17/2013  
Number of Days to Update: 21

Source: Department of Environmental Protection  
Telephone: 502-564-6716  
Last EDR Contact: 09/03/2013  
Next Scheduled EDR Contact: 12/16/2013  
Data Release Frequency: Varies

**KY INST CONTROL: State Superfund Database**  
A list of closed sites in the State Superfund Database. Institutional controls would be in place at any site that uses Contained or Managed as a Closure Option.

Date of Government Version: 06/26/2013  
Date Data Arrived at EDR: 06/26/2013  
Date Made Active in Reports: 07/17/2013  
Number of Days to Update: 21

Source: Department of Environmental Protection  
Telephone: 502-564-6716  
Last EDR Contact: 09/03/2013  
Next Scheduled EDR Contact: 12/16/2013  
Data Release Frequency: Varies

**IN VCP: Voluntary Remediation Program Site List**  
A current list of Voluntary Remediation Program sites that are no longer confidential.

Date of Government Version: 01/01/2012  
Date Data Arrived at EDR: 01/25/2012  
Date Made Active in Reports: 02/02/2012  
Number of Days to Update: 8

Source: Department of Environmental Management  
Telephone: 317-234-0966  
Last EDR Contact: 07/19/2013  
Next Scheduled EDR Contact: 10/28/2013  
Data Release Frequency: Semi-Annually

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

### KY VCP: Voluntary Cleanup Program Sites

Sites that have been accepted into the Voluntary Cleanup Program or have submitted an application.

Date of Government Version: 06/26/2013	Source: Department of Environmental Protection
Date Data Arrived at EDR: 06/26/2013	Telephone: 502-564-6716
Date Made Active in Reports: 07/17/2013	Last EDR Contact: 09/03/2013
Number of Days to Update: 21	Next Scheduled EDR Contact: 12/16/2013
	Data Release Frequency: Varies

### KY DRYCLEANERS: Drycleaner Listing

A listing of drycleaner facility locations.

Date of Government Version: 06/03/2013	Source: Department of Environmental Protection
Date Data Arrived at EDR: 06/04/2013	Telephone: 502-573-3382
Date Made Active in Reports: 07/17/2013	Last EDR Contact: 09/03/2013
Number of Days to Update: 43	Next Scheduled EDR Contact: 12/16/2013
	Data Release Frequency: Varies

### IN DRYCLEANERS: Drycleaner Facility Listing

A list of drycleaners involved in the Indiana 5-Star Environmental Recognition Program. It is a voluntary program that ranks participating drycleaners on a scale of one to five stars. The program recognizes those drycleaners willing to do more for the environment and worker safety than the rules require. These drycleaners are going above and beyond the rules to protect the environment, their employees and their neighbors and customers.

Date of Government Version: 06/13/2013	Source: Department of Environmental Management
Date Data Arrived at EDR: 08/23/2013	Telephone: 800-988-7901
Date Made Active in Reports: 09/18/2013	Last EDR Contact: 09/16/2013
Number of Days to Update: 26	Next Scheduled EDR Contact: 12/30/2013
	Data Release Frequency: Varies

### IN BROWNFIELDS: Brownfields Site List

A brownfield site is an industrial or commercial property that is abandoned, inactive, or underutilized, on which expansion or redevelopment is complicated due to the actual or perceived environmental contamination.

Date of Government Version: 06/03/2013	Source: Department of Environmental Management
Date Data Arrived at EDR: 06/04/2013	Telephone: 317-233-2570
Date Made Active in Reports: 06/28/2013	Last EDR Contact: 09/16/2013
Number of Days to Update: 24	Next Scheduled EDR Contact: 12/16/2013
	Data Release Frequency: Semi-Annually

### KY BROWNFIELDS: Kentucky Brownfield Inventory

The Kentucky Brownfield Program has created an inventory of brownfield sites in order to market the properties to those interested in brownfield redevelopment. The Kentucky Brownfield Program is working to promote the redevelopment of these sites by helping to remove barriers that prevent reuse, providing useful information to communities, developers and the public and encouraging a climate that fosters redevelopment of contaminated sites.

Date of Government Version: 08/05/2013	Source: Division of Compliance Assistance
Date Data Arrived at EDR: 08/07/2013	Telephone: 502-564-0323
Date Made Active in Reports: 08/13/2013	Last EDR Contact: 07/18/2013
Number of Days to Update: 6	Next Scheduled EDR Contact: 11/04/2013
	Data Release Frequency: Varies

### KY CDL: Clandestine Drug Lab Location Listing

Clandestine drug lab site locations.

Date of Government Version: 06/26/2013	Source: Department of Environmental Protection
Date Data Arrived at EDR: 06/26/2013	Telephone: 502-564-6716
Date Made Active in Reports: 07/17/2013	Last EDR Contact: 09/03/2013
Number of Days to Update: 21	Next Scheduled EDR Contact: 12/16/2013
	Data Release Frequency: Varies

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

### IN CDL: Clandestine Drug Lab Listing

A listing of clandestine drug labs that have been cleaned up.

Date of Government Version: 07/08/2013	Source: Department of Environmental Management
Date Data Arrived at EDR: 07/08/2013	Telephone: 317-416-5031
Date Made Active in Reports: 07/31/2013	Last EDR Contact: 07/08/2013
Number of Days to Update: 23	Next Scheduled EDR Contact: 10/21/2013
	Data Release Frequency: Quarterly

### KY NPDES: Permitted Facility Listing

A listing of permitted wastewater facilities.

Date of Government Version: 08/06/2013	Source: Department of Environmental Protection
Date Data Arrived at EDR: 08/07/2013	Telephone: 502-564-3410
Date Made Active in Reports: 08/14/2013	Last EDR Contact: 07/16/2013
Number of Days to Update: 7	Next Scheduled EDR Contact: 08/26/2013
	Data Release Frequency: Varies

### KY AIRS: Permitted Airs Facility Listing

A listing of permitted Airs facilities.

Date of Government Version: 06/03/2013	Source: Department of Environmental Protection
Date Data Arrived at EDR: 06/04/2013	Telephone: 502-573-3382
Date Made Active in Reports: 07/17/2013	Last EDR Contact: 09/03/2013
Number of Days to Update: 43	Next Scheduled EDR Contact: 12/16/2013
	Data Release Frequency: Varies

### IN AIRS: Permitted Sources & Emissions Listing

Current permitted sources and emissions inventory information.

Date of Government Version: 12/31/2012	Source: Department of Environmental Management
Date Data Arrived at EDR: 07/08/2013	Telephone: 317-233-0185
Date Made Active in Reports: 08/29/2013	Last EDR Contact: 07/08/2013
Number of Days to Update: 52	Next Scheduled EDR Contact: 10/21/2013
	Data Release Frequency: Varies

### KY LEAD: Environmental Lead Program Report Tracking Database

Lead Report Tracking Database

Date of Government Version: 07/10/2013	Source: Department of Public Health
Date Data Arrived at EDR: 07/16/2013	Telephone: 502-564-4537
Date Made Active in Reports: 07/31/2013	Last EDR Contact: 08/08/2013
Number of Days to Update: 15	Next Scheduled EDR Contact: 11/25/2013
	Data Release Frequency: Varies

### IN OISC: Office of Indiana State Chemist Database

Restricted use pesticide dealers and pesticide & fertilizer applicators.

Date of Government Version: 06/24/2013	Source: Office of Indiana State Chemist & Seed
Date Data Arrived at EDR: 06/25/2013	Telephone: 765-494-1492
Date Made Active in Reports: 08/29/2013	Last EDR Contact: 09/24/2013
Number of Days to Update: 65	Next Scheduled EDR Contact: 01/08/2014
	Data Release Frequency: Quarterly

### IN SCP: State Cleanup Program Sites

The goals for the State Cleanup Section are to mitigate risk to human health and the environment.

Date of Government Version: 06/03/2013	Source: Department of Environmental Management
Date Data Arrived at EDR: 06/04/2013	Telephone: 317-233-0068
Date Made Active in Reports: 06/28/2013	Last EDR Contact: 09/16/2013
Number of Days to Update: 24	Next Scheduled EDR Contact: 12/16/2013
	Data Release Frequency: Quarterly

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

### TRIBAL RECORDS

#### INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2005	Source: USGS
Date Data Arrived at EDR: 12/08/2006	Telephone: 202-208-3710
Date Made Active in Reports: 01/11/2007	Last EDR Contact: 07/19/2013
Number of Days to Update: 34	Next Scheduled EDR Contact: 10/28/2013
	Data Release Frequency: Semi-Annually

#### INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/03/2007	Telephone: 703-308-8245
Date Made Active in Reports: 01/24/2008	Last EDR Contact: 07/31/2013
Number of Days to Update: 52	Next Scheduled EDR Contact: 11/18/2013
	Data Release Frequency: Varies

#### INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land

A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 09/28/2012	Source: EPA Region 1
Date Data Arrived at EDR: 11/01/2012	Telephone: 617-918-1313
Date Made Active in Reports: 04/12/2013	Last EDR Contact: 08/02/2013
Number of Days to Update: 162	Next Scheduled EDR Contact: 11/11/2013
	Data Release Frequency: Varies

#### INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 02/06/2013	Source: EPA Region 4
Date Data Arrived at EDR: 02/08/2013	Telephone: 404-562-8677
Date Made Active in Reports: 04/12/2013	Last EDR Contact: 07/24/2013
Number of Days to Update: 63	Next Scheduled EDR Contact: 11/11/2013
	Data Release Frequency: Semi-Annually

#### INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 09/12/2011	Source: EPA Region 6
Date Data Arrived at EDR: 09/13/2011	Telephone: 214-665-6597
Date Made Active in Reports: 11/11/2011	Last EDR Contact: 07/24/2013
Number of Days to Update: 59	Next Scheduled EDR Contact: 11/11/2013
	Data Release Frequency: Varies

#### INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 12/31/2012	Source: EPA Region 7
Date Data Arrived at EDR: 02/28/2013	Telephone: 913-551-7003
Date Made Active in Reports: 04/12/2013	Last EDR Contact: 07/24/2013
Number of Days to Update: 43	Next Scheduled EDR Contact: 11/11/2013
	Data Release Frequency: Varies

#### INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 02/05/2013	Source: EPA Region 10
Date Data Arrived at EDR: 02/06/2013	Telephone: 206-553-2857
Date Made Active in Reports: 04/12/2013	Last EDR Contact: 07/24/2013
Number of Days to Update: 65	Next Scheduled EDR Contact: 11/11/2013
	Data Release Frequency: Quarterly

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

#### INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 03/01/2013	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/01/2013	Telephone: 415-972-3372
Date Made Active in Reports: 04/12/2013	Last EDR Contact: 07/24/2013
Number of Days to Update: 42	Next Scheduled EDR Contact: 11/11/2013
	Data Release Frequency: Quarterly

#### INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 08/27/2012	Source: EPA Region 8
Date Data Arrived at EDR: 08/28/2012	Telephone: 303-312-6271
Date Made Active in Reports: 10/16/2012	Last EDR Contact: 07/24/2013
Number of Days to Update: 49	Next Scheduled EDR Contact: 11/11/2013
	Data Release Frequency: Quarterly

#### INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 12/31/2012	Source: EPA Region 7
Date Data Arrived at EDR: 02/28/2013	Telephone: 913-551-7003
Date Made Active in Reports: 04/12/2013	Last EDR Contact: 07/24/2013
Number of Days to Update: 43	Next Scheduled EDR Contact: 11/11/2013
	Data Release Frequency: Varies

#### INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 09/28/2012	Source: EPA, Region 1
Date Data Arrived at EDR: 11/07/2012	Telephone: 617-918-1313
Date Made Active in Reports: 04/12/2013	Last EDR Contact: 08/02/2013
Number of Days to Update: 156	Next Scheduled EDR Contact: 11/11/2013
	Data Release Frequency: Varies

#### INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 02/06/2013	Source: EPA Region 4
Date Data Arrived at EDR: 02/08/2013	Telephone: 404-562-9424
Date Made Active in Reports: 04/12/2013	Last EDR Contact: 07/24/2013
Number of Days to Update: 63	Next Scheduled EDR Contact: 11/11/2013
	Data Release Frequency: Semi-Annually

#### INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 08/02/2012	Source: EPA Region 5
Date Data Arrived at EDR: 08/03/2012	Telephone: 312-886-6136
Date Made Active in Reports: 11/05/2012	Last EDR Contact: 07/24/2013
Number of Days to Update: 94	Next Scheduled EDR Contact: 11/11/2013
	Data Release Frequency: Varies

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

### INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 05/10/2011	Source: EPA Region 6
Date Data Arrived at EDR: 05/11/2011	Telephone: 214-665-7591
Date Made Active in Reports: 06/14/2011	Last EDR Contact: 07/24/2013
Number of Days to Update: 34	Next Scheduled EDR Contact: 11/11/2013
	Data Release Frequency: Semi-Annually

### INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 08/27/2012	Source: EPA Region 8
Date Data Arrived at EDR: 08/28/2012	Telephone: 303-312-6137
Date Made Active in Reports: 10/16/2012	Last EDR Contact: 07/24/2013
Number of Days to Update: 49	Next Scheduled EDR Contact: 11/11/2013
	Data Release Frequency: Quarterly

### INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 02/21/2013	Source: EPA Region 9
Date Data Arrived at EDR: 02/26/2013	Telephone: 415-972-3368
Date Made Active in Reports: 04/12/2013	Last EDR Contact: 07/24/2013
Number of Days to Update: 45	Next Scheduled EDR Contact: 11/11/2013
	Data Release Frequency: Quarterly

### INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 02/05/2013	Source: EPA Region 10
Date Data Arrived at EDR: 02/06/2013	Telephone: 206-553-2857
Date Made Active in Reports: 04/12/2013	Last EDR Contact: 07/24/2013
Number of Days to Update: 65	Next Scheduled EDR Contact: 11/11/2013
	Data Release Frequency: Quarterly

### INDIAN VCP R7: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008	Source: EPA, Region 7
Date Data Arrived at EDR: 04/22/2008	Telephone: 913-551-7365
Date Made Active in Reports: 05/19/2008	Last EDR Contact: 04/20/2009
Number of Days to Update: 27	Next Scheduled EDR Contact: 07/20/2009
	Data Release Frequency: Varies

### INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 09/28/2012	Source: EPA, Region 1
Date Data Arrived at EDR: 10/02/2012	Telephone: 617-918-1102
Date Made Active in Reports: 10/16/2012	Last EDR Contact: 07/02/2013
Number of Days to Update: 14	Next Scheduled EDR Contact: 10/14/2013
	Data Release Frequency: Varies

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

### EDR PROPRIETARY RECORDS

#### EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A	Source: EDR, Inc.
Date Data Arrived at EDR: N/A	Telephone: N/A
Date Made Active in Reports: N/A	Last EDR Contact: N/A
Number of Days to Update: N/A	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

#### EDR US Hist Auto Stat: EDR Exclusive Historic Gas Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A	Source: EDR, Inc.
Date Data Arrived at EDR: N/A	Telephone: N/A
Date Made Active in Reports: N/A	Last EDR Contact: N/A
Number of Days to Update: N/A	Next Scheduled EDR Contact: N/A
	Data Release Frequency: Varies

#### EDR US Hist Cleaners: EDR Exclusive Historic Dry Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A	Source: EDR, Inc.
Date Data Arrived at EDR: N/A	Telephone: N/A
Date Made Active in Reports: N/A	Last EDR Contact: N/A
Number of Days to Update: N/A	Next Scheduled EDR Contact: N/A
	Data Release Frequency: Varies

#### EDR US Hist Auto Stat: EDR Proprietary Historic Gas Stations - Cole

Date of Government Version: N/A	Source: N/A
Date Data Arrived at EDR: N/A	Telephone: N/A
Date Made Active in Reports: N/A	Last EDR Contact: N/A
Number of Days to Update: N/A	Next Scheduled EDR Contact: N/A
	Data Release Frequency: Varies

#### EDR US Hist Cleaners: EDR Proprietary Historic Dry Cleaners - Cole

Date of Government Version: N/A	Source: N/A
Date Data Arrived at EDR: N/A	Telephone: N/A
Date Made Active in Reports: N/A	Last EDR Contact: N/A
Number of Days to Update: N/A	Next Scheduled EDR Contact: N/A
	Data Release Frequency: Varies

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

### OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

#### CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 05/20/2013	Source: Department of Energy & Environmental Protection
Date Data Arrived at EDR: 05/21/2013	Telephone: 860-424-3375
Date Made Active in Reports: 06/27/2013	Last EDR Contact: 08/19/2013
Number of Days to Update: 37	Next Scheduled EDR Contact: 12/02/2013
	Data Release Frequency: Annually

#### NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 08/01/2013	Source: Department of Environmental Conservation
Date Data Arrived at EDR: 08/07/2013	Telephone: 518-402-8651
Date Made Active in Reports: 09/10/2013	Last EDR Contact: 08/07/2013
Number of Days to Update: 34	Next Scheduled EDR Contact: 11/18/2013
	Data Release Frequency: Annually

#### PA MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2012	Source: Department of Environmental Protection
Date Data Arrived at EDR: 07/24/2013	Telephone: 717-783-8990
Date Made Active in Reports: 08/19/2013	Last EDR Contact: 07/18/2013
Number of Days to Update: 26	Next Scheduled EDR Contact: 11/04/2013
	Data Release Frequency: Annually

#### RI MANIFEST: Manifest information

Hazardous waste manifest information

Date of Government Version: 12/31/2012	Source: Department of Environmental Management
Date Data Arrived at EDR: 06/21/2013	Telephone: 401-222-2797
Date Made Active in Reports: 08/05/2013	Last EDR Contact: 08/23/2013
Number of Days to Update: 45	Next Scheduled EDR Contact: 12/09/2013
	Data Release Frequency: Annually

#### VT MANIFEST: Hazardous Waste Manifest Data

Hazardous waste manifest information.

Date of Government Version: 05/01/2013	Source: Department of Environmental Conservation
Date Data Arrived at EDR: 08/14/2013	Telephone: 802-241-3443
Date Made Active in Reports: 09/20/2013	Last EDR Contact: 07/18/2013
Number of Days to Update: 37	Next Scheduled EDR Contact: 11/04/2013
	Data Release Frequency: Annually

#### WI MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2012	Source: Department of Natural Resources
Date Data Arrived at EDR: 08/09/2013	Telephone: N/A
Date Made Active in Reports: 09/27/2013	Last EDR Contact: 09/16/2013
Number of Days to Update: 49	Next Scheduled EDR Contact: 12/30/2013
	Data Release Frequency: Annually

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Oil/Gas Pipelines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

#### AHA Hospitals:

Source: American Hospital Association, Inc.  
Telephone: 312-280-5991

The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

#### Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services  
Telephone: 410-786-3000

A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

#### Nursing Homes

Source: National Institutes of Health  
Telephone: 301-594-6248

Information on Medicare and Medicaid certified nursing homes in the United States.

#### Public Schools

Source: National Center for Education Statistics  
Telephone: 202-502-7300

The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

#### Private Schools

Source: National Center for Education Statistics  
Telephone: 202-502-7300

The National Center for Education Statistics' primary database on private school locations in the United States.

#### Daycare Centers: Child Care Listing

Source: Department Of Human Services  
Telephone: 615-313-4778

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

#### State Wetlands Data: Wetlands Inventory

Source: Tennessee Spatial Data Server  
Telephone: 931-528-6481

Tennessee Lust TDEC: In 1998 EDR reviewed technical reports, phase II reports and phase II report equivalents held by the Tennessee Department of Environment and Conservation and recorded data on leaking underground storage tanks in Davidson, Knox, and Shelby counties.

### STREET AND ADDRESS INFORMATION

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# Memorandum

**SENT VIA ELECTRONIC MAIL**

Subject: **INFORMATION:** Interim Guidance Update on Mobile Source Air Toxic Analysis in NEPA Documents  
*/S/Original signed by*  
 From: April Marchese  
 Director, Office of Natural Environment  
 Date: December 6, 2012  
 In Reply Refer To:  
 HEPN-10  
 To: Division Administrators  
 Federal Lands Highway Division Engineers

## APPENDIX B – INTERIM GUIDANCE UPDATE ON MOBILE SOURCE AIR TOXICS (MSAT) ANALYSIS

### PURPOSE

The purpose of this memorandum is to update the September 2009 interim guidance that advised Federal Highway (FHWA) Division offices on when and how to analyze Mobile Source Air Toxics (MSAT) under the National Environmental Policy Act (NEPA) review process for highway projects.

This update reflects recent changes in methodology for conducting emissions analysis and updates of research in the MSAT arena. The U.S. Environmental Protection Agency (EPA) released the latest emission model, the Motor Vehicle Emissions Simulator (MOVES) in 2010, and started a 2-year grace period to phase in the requirement of using MOVES for transportation conformity analysis. On February 8, 2011, EPA issued guidance on [Using the MOVES and Emission FACTors \(EMFAC\) Models in NEPA Evaluation](#) that recommended the same grace period be applied to project-level emissions analysis for NEPA purposes. At the end of this grace period, i.e. beginning December 20, 2012, project sponsors should use MOVES to conduct emissions analysis for NEPA purposes. To prepare for this transition, FHWA is updating the September 2009 Interim Guidance to incorporate the analysis conducted using MOVES. Based on FHWA's analysis using MOVES2010b, the latest version of MOVES, diesel particulate matter (diesel PM) has become the dominant MSAT of concern. We have also provided an update on the status of scientific research on air toxics. The update supersedes the September 2009 Interim Guidance and should be referenced as a whole in NEPA documentation.

### BACKGROUND

Controlling air toxic emissions became a national priority with the passage of the Clean Air Act Amendments (CAAA) of 1990, whereby Congress mandated that the U.S. Environmental Protection Agency (EPA) regulate 188 air toxics, also known as hazardous air pollutants. The EPA has assessed this expansive list in their latest rule on the Control of Hazardous Air

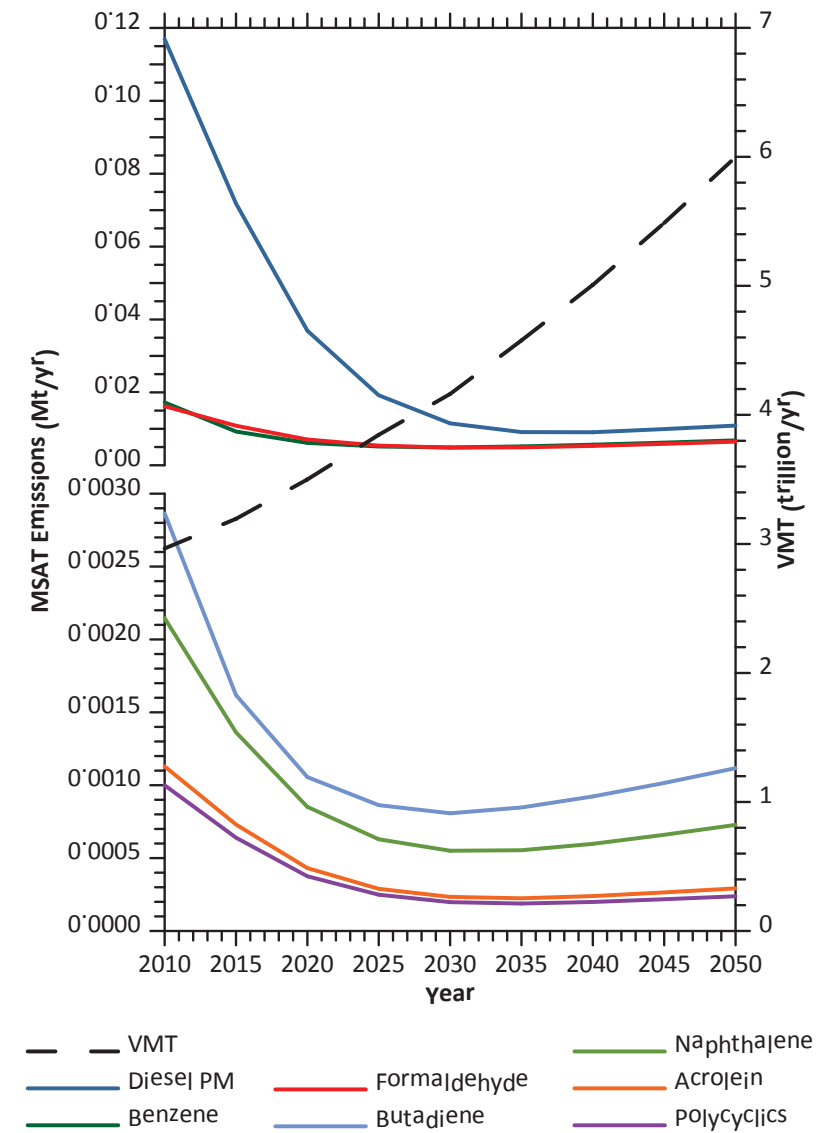
Pollutants from Mobile Sources (Federal Register, Vol. 72, No. 37, page 8430, February 26, 2007), and identified a group of 93 compounds emitted from mobile sources that are listed in their Integrated Risk Information System (IRIS) (<http://cfpub.epa.gov/ncea/iris/index.cfm>). In addition, EPA identified seven compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers from their 1999 National Air Toxics Assessment (NATA) (<http://www.epa.gov/ttn/atw/nata1999/>). These are *acrolein, benzene, 1,3-butadiene, diesel particulate matter plus diesel exhaust organic gases (diesel PM), formaldehyde, naphthalene, and polycyclic organic matter*. While FHWA considers these the priority mobile source air toxics, the list is subject to change and may be adjusted in consideration of future EPA rules.

**Motor Vehicle Emissions Simulator (MOVES)**

According to EPA, MOVES improves upon the previous MOBILE model in several key aspects: MOVES is based on a vast amount of in-use vehicle data collected and analyzed since the latest release of MOBILE, including millions of emissions measurements from light-duty vehicles. Analysis of this data enhanced EPA’s understanding of how mobile sources contribute to emissions inventories and the relative effectiveness of various control strategies. In addition, MOVES accounts for the significant effects that vehicle speed and temperature have on PM emissions estimates, whereas MOBILE did not. MOVES2010b includes all air toxic pollutants in NATA that are emitted by mobile sources. EPA has incorporated more recent data into MOVES2010b to update and enhance the quality of MSAT emission estimates. These data reflect advanced emission control technology and modern fuels, plus additional data for older technology vehicles.

Based on an FHWA analysis using EPA’s MOVES2010b model, as shown in Figure 1, even if vehicle-miles travelled (VMT) increases by 102 percent as assumed from 2010 to 2050, a combined reduction of 83 percent in the total annual emissions for the priority MSAT is projected for the same time period.

**Figure 1:  
PROJECTED NATIONAL MSAT EMISSION TRENDS 2010 – 2050  
FOR VEHICLES OPERATING ON ROADWAYS  
USING EPA’S MOVES2010b MODEL**



Note: Trends for specific locations may be different, depending on locally derived information representing vehicle-miles travelled, vehicle speeds, vehicle mix, fuels, emission control programs, meteorology, and other factors

Source: EPA MOVES2010b model runs conducted during May – June 2012 by FHWA.

The implications of MOVES on MSAT emissions estimates compared to MOBILE are: lower estimates of total MSAT emissions; significantly lower benzene emissions; significantly higher diesel PM emissions, especially for lower speeds. Consequently, diesel PM is projected to be the dominant component of the emissions total.

#### **MSAT Research**

Air toxics analysis is a continuing area of research. While much work has been done to assess the overall health risk of air toxics, many questions remain unanswered. In particular, the tools and techniques for assessing project-specific health outcomes as a result of lifetime MSAT exposure remain limited. These limitations impede the ability to evaluate how potential public health risks posed by MSAT exposure should be factored into project-level decision-making within the context of NEPA.

Nonetheless, air toxics concerns continue to be raised on highway projects during the NEPA process. Even as the science emerges, we are duly expected by the public and other agencies to address MSAT impacts in our environmental documents. The FHWA, EPA, the Health Effects Institute, and others have funded and conducted research studies to try to more clearly define potential risks from MSAT emissions associated with highway projects. The FHWA will continue to monitor the developing research in this field.

#### **NEPA CONTEXT**

The NEPA requires, to the fullest extent possible, that the policies, regulations, and laws of the Federal Government be interpreted and administered in accordance with its environmental protection goals. The NEPA also requires Federal agencies to use an interdisciplinary approach in planning and decision-making for any action that adversely impacts the environment. The NEPA requires and FHWA is committed to the examination and avoidance of potential impacts to the natural and human environment when considering approval of proposed transportation projects. In addition to evaluating the potential environmental effects, we must also take into account the need for safe and efficient transportation in reaching a decision that is in the best overall public interest. The FHWA policies and procedures for implementing NEPA are contained in regulation at 23 CFR Part 771.

#### **CONSIDERATION OF MSAT IN NEPA DOCUMENTS**

The FHWA developed a tiered approach with three categories for analyzing MSAT in NEPA documents, depending on specific project circumstances:

- (1) No analysis for projects with no potential for meaningful MSAT effects;
- (2) Qualitative analysis for projects with low potential MSAT effects; or

(3) Quantitative analysis to differentiate alternatives for projects with higher potential MSAT effects.

For projects warranting MSAT analysis, the seven priority MSAT should be analyzed.

#### ***(1) Projects with No Meaningful Potential MSAT Effects, or Exempt Projects.***

The types of projects included in this category are:

- Projects qualifying as a categorical exclusion under 23 CFR 771.117(c) (subject to consideration whether unusual circumstances exist under 23 CFR 771.117(b));
- Projects exempt under the Clean Air Act conformity rule under 40 CFR 93.126; or
- Other projects with no meaningful impacts on traffic volumes or vehicle mix.

For projects that are categorically excluded under 23 CFR 771.117(c), or are exempt from conformity requirements under the Clean Air Act pursuant to 40 CFR 93.126, no analysis or discussion of MSAT is necessary. Documentation sufficient to demonstrate that the project qualifies as a categorical exclusion and/or exempt project will suffice. For other projects with no or negligible traffic impacts, regardless of the class of NEPA environmental document, no MSAT analysis is recommended.<sup>1</sup> However, the project record should document the basis for the determination of “no meaningful potential impacts” with a brief description of the factors considered. Example language, which must be modified to correspond with local and project-specific circumstances, is provided in Appendix A.

#### ***(2) Projects with Low Potential MSAT Effects***

The types of projects included in this category are those that serve to improve operations of highway, transit, or freight without adding substantial new capacity or without creating a facility that is likely to meaningfully increase MSAT emissions. This category covers a broad range of projects.

We anticipate that most highway projects that need an MSAT assessment will fall into this category. Any projects not meeting the criteria in category (1) or category (3) below should be included in this category. Examples of these types of projects are minor widening projects; new interchanges, replacing a signalized intersection on a surface street; or projects where design year traffic is projected to be less than 140,000 to 150,000 annual average daily traffic (AADT).

For these projects, a qualitative assessment of emissions projections should be conducted. This qualitative assessment would compare, in narrative form, the expected effect of the project on traffic volumes, vehicle mix, or routing of traffic and the associated changes in MSAT for the project alternatives, including no-build, based on VMT, vehicle mix, and speed. It would also

<sup>1</sup> The types of projects categorically excluded under 23 CFR 771.117(d) or exempt from certain conformity requirements under 40 CFR 93.127 does not warrant an automatic exemption from an MSAT analysis, but they usually will have no meaningful impact.



discuss national trend data projecting substantial overall reductions in emissions due to stricter engine and fuel regulations issued by EPA. Because the emission effects of these projects typically are low, we expect there would be no appreciable difference in overall MSAT emissions among the various alternatives.

Appendix B includes example language for a qualitative assessment, with specific examples for four types of projects: (1) a minor widening project; (2) a new interchange connecting an existing roadway with a new roadway; (3) a new interchange connecting new roadways; and (4) minor improvements or expansions to intermodal centers or other projects that affect truck traffic. The information provided in Appendix B must be modified to reflect the local and project-specific situation.

In addition to the qualitative assessment, a NEPA document for this category of projects must include a discussion of information that is incomplete or unavailable for a project specific assessment of MSAT impacts, in compliance with the Council on Environmental Quality (CEQ) regulations (40 CFR 1502.22(b)). This discussion should explain how current scientific techniques, tools, and data are not sufficient to accurately estimate human health impacts that could result from a transportation project in a way that would be useful to decision-makers. Also in compliance with 40 CFR 1502.22(b), it should contain information regarding the health impacts of MSAT. See Appendix C.

### ***(3) Projects with Higher Potential MSAT Effects***

This category includes projects that have the potential for meaningful differences in MSAT emissions among project alternatives. We expect a limited number of projects to meet this two-pronged test. To fall into this category, a project should:

- Create or significantly alter a major intermodal freight facility that has the potential to concentrate high levels of diesel particulate matter in a single location, involving a significant number of diesel vehicles for new projects or accommodating with a significant increase in the number of diesel vehicles for expansion projects; or
- Create new capacity or add significant capacity to urban highways such as interstates, urban arterials, or urban collector-distributor routes with traffic volumes where the AADT is projected to be in the range of 140,000 to 150,000<sup>2</sup> or greater by the design year;

#### ***And also***

- Proposed to be located in proximity to populated areas.

Projects falling within this category should be more rigorously assessed for impacts. If a project falls within this category, you should contact the Office of Natural Environment (HEPN) and the

<sup>2</sup> Using EPA's MOVES2010b emissions model, FHWA staff determined that this range of AADT would result in emissions significantly lower than the Clean Air Act definition of a major hazardous air pollutant (HAP) source, i.e., 25 tons/yr. for all HAPs or 10 tons/yr. for any single HAP. Variations in conditions such as congestion or vehicle mix could warrant a different range for AADT; if this range does not seem appropriate for your project, please consult with the contacts from HEPN and HEPE identified in this memorandum.

Office of Project Development and Environmental Review (HEPE) in FHWA Headquarters for assistance in developing a specific approach for assessing impacts. This approach would include a quantitative analysis to forecast local-specific emission trends of the priority MSAT for each alternative, to use as a basis of comparison. This analysis also may address the potential for cumulative impacts, where appropriate, based on local conditions. How and when cumulative impacts should be considered would be addressed as part of the assistance outlined above. The NEPA document for this project should also include relevant language on unavailable information described in Appendix C.

If the analysis for a project in this category indicates meaningful differences in levels of MSAT emissions among alternatives, mitigation options should be identified and considered. See Appendix E for information on mitigation strategies.

You should also consult with HEPN and HEPE if you have a project that does not fall within any of the types of projects listed above, but you think has the potential to substantially increase future MSAT emissions.

### **CONCLUSION**

What we know about mobile source air toxics is still evolving. As the science progresses FHWA will continue to revise and update this guidance. FHWA is working with Stakeholders, EPA and others to better understand the strengths and weaknesses of developing analysis tools and the applicability on the project level decision documentation process. FHWA wanted to make project sponsors aware of the implications of the transition to the MOVES model and that we will be issuing updates to this interim guidance when necessary. Additional background information on MSAT-related research is provided in Appendix D.

The FHWA Headquarters and Resource Center staff Victoria Martinez (787) 766-5600 X231, Bruce Bender (202) 366-2851, and Michael Claggett (505) 820-2047, are available to provide information and technical assistance, support any necessary analysis, and limit project delays. All MSAT analysis beginning on or after December 20, 2012, should use the MOVES model. Any MSAT analysis initiated prior to that date may continue to operate under the previous guidance and utilize MOBILE6.2. We are available to answer questions from project sponsors as we transition to MOVES.

### **APPENDICES**

Appendix A – Prototype Language for Exempt Projects

Appendix B – Prototype Language for Qualitative Project Level MSAT Analysis

Appendix C – The Council on Environmental Quality (CEQ) Provisions Covering Incomplete or Unavailable Information (40 CFR 1502.22) including a discussion of unavailable information for project-specific MSAT Health Impacts Analysis

Appendix D – FHWA Sponsored Mobile Source Air Toxics Research Efforts

Appendix E – MSAT Mitigation Strategies

#### **APPENDIX A – Prototype Language for Exempt Projects**

The purpose of this project is to *(insert major deficiency that the project is meant to address)* by constructing *(insert major elements of the project)*. This project has been determined to generate minimal air quality impacts for CAAA criteria pollutants and has not been linked with any special MSAT concerns. As such, this project will not result in changes in traffic volumes, vehicle mix, basic project location, or any other factor that would cause an increase in MSAT impacts of the project from that of the no-build alternative.

Moreover, EPA regulations for vehicle engines and fuels will cause overall MSAT emissions to decline significantly over the next several decades. Based on regulations now in effect, an analysis of national trends with EPA's MOVES model forecasts a combined reduction of over 80 percent in the total annual emission rate for the priority MSAT from 2010 to 2050 while vehicle-miles of travel are projected to increase by over 100 percent. This will both reduce the background level of MSAT as well as the possibility of even minor MSAT emissions from this project.

#### **APPENDIX B – Examples of Prototype Language for Qualitative Project-Level MSAT Analysis**

The information in this Appendix is for projects with low potential MSAT effects – any non-exempt project that does not meet the threshold criteria for higher potential effects, as described in the interim guidance, should be considered for treatment provided here. The types of projects that fall into this category are those that improve operations of highways, or freight facilities without adding substantial new capacity. Examples include minor widening projects or new interchanges replacing signalized intersection on surface streets.

The following are some examples of qualitative MSAT analyses for different types of projects. Each project is different, and some projects may contain elements covered in more than one of the examples below. Analysts can use the example language as a starting point, but should tailor it to reflect the unique circumstances of the project being considered. The following factors should be considered when crafting a qualitative analysis:

- For projects on an existing alignment, MSAT are expected to decline due to the effect of new EPA engine and fuel standards.
- Projects that result in increased travel speeds will reduce MSAT emissions per VMT basis, although previously, the effect of speed changes on diesel particulate matter was not accounted for in the MOBILE6.2 model, however, MOVES does provide this estimation and should be accounted for accordingly. This speed benefit may be offset somewhat by increased VMT if the more efficient facility attracts additional vehicle trips.
- Projects that facilitate new development may generate additional MSAT emissions from new trips, truck deliveries, and parked vehicles (due to evaporative emissions). However, these may also be activities that are attracted from elsewhere in the metro region; thus, on a regional scale there may be no net change in emissions.
- Projects that create new travel lanes, relocate lanes, or relocate economic activity closer to homes, schools, businesses, and other populated areas may increase concentrations of MSAT at those locations relative to No Action.

Other elements related to a qualitative analysis are a discussion of information that is incomplete or unavailable for a project specific assessment of MSAT impacts and a discussion of any MSAT mitigation measures that may be associated with the project.

## INTRODUCTORY LANGUAGE FOR QUALITATIVE ANALYSIS FOR ALL PROJECTS

A qualitative analysis provides a basis for identifying and comparing the potential differences among MSAT emissions, if any, from the various alternatives. The qualitative assessment presented below is derived in part from a study conducted by the FHWA entitled *A Methodology for Evaluating Mobile Source Air Toxic Emissions Among Transportation Project Alternatives*, found at: [www.fhwa.dot.gov/environment/airtoxic/msatcompare/msatemissions.htm](http://www.fhwa.dot.gov/environment/airtoxic/msatcompare/msatemissions.htm)

### **(1) Minor Widening Project**

*(For purposes of this scenario, minor highway widening projects are those in which the design year traffic is predicted to be less than 140,000 – 150,000 AADT. Widening projects that surpass these criteria are subject to a quantitative analysis.)*

For each alternative in this EIS/EA (*specify*), the amount of MSAT emitted would be proportional to the vehicle miles traveled, or VMT, assuming that other variables such as fleet mix are the same for each alternative. The VMT estimated for each of the Build Alternatives is slightly higher than that for the No Build Alternative, because the additional capacity increases the efficiency of the roadway and attracts rerouted trips from elsewhere in the transportation network. Refer to Table \_\_\_\_ (*specify*). This increase in VMT would lead to higher MSAT emissions for the preferred action alternative along the highway corridor, along with a corresponding decrease in MSAT emissions along the parallel routes. The emissions increase is offset somewhat by lower MSAT emission rates due to increased speeds; according to EPA's MOVES2010b model, emissions of all of the priority MSAT decrease as speed increases. Because the estimated VMT under each of the Alternatives are nearly the same, varying by less than \_\_\_\_ (*specify*) percent, it is expected there would be no appreciable difference in overall MSAT emissions among the various alternatives. Also, regardless of the alternative chosen, emissions will likely be lower than present levels in the design year as a result of EPA's national control programs that are projected to reduce annual MSAT emissions by over 80 percent between 2010 and 2050. Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. However, the magnitude of the EPA-projected reductions is so great (even after accounting for VMT growth) that MSAT emissions in the study area are likely to be lower in the future in nearly all cases.

*(The following paragraph may apply if the project includes plans to construct travel lanes closer to populated areas.)*

The additional travel lanes contemplated as part of the project alternatives will have the effect of moving some traffic closer to nearby homes, schools, and businesses; therefore, under each alternative there may be localized areas where ambient concentrations of MSAT could be higher under certain Build Alternatives than the No Build Alternative. The localized increases in MSAT concentrations would likely be most pronounced along

the expanded roadway sections that would be built at \_\_\_\_ (*specify location*), under Alternatives \_\_\_\_ (*specify*), and along \_\_\_\_ (*specify route*) under Alternatives \_\_\_\_ (*specify*). However, the magnitude and the duration of these potential increases compared to the No-Build alternative cannot be reliably quantified due to incomplete or unavailable information in forecasting project-specific MSAT health impacts. In sum, when a highway is widened, the localized level of MSAT emissions for the Build Alternative could be higher relative to the No Build Alternative, but this could be offset due to increases in speeds and reductions in congestion (which are associated with lower MSAT emissions). Also, MSAT will be lower in other locations when traffic shifts away from them. However, on a regional basis, EPA's vehicle and fuel regulations, coupled with fleet turnover, will over time cause substantial reductions that, in almost all cases, will cause region-wide MSAT levels to be significantly lower than today.

### **(2) New Interchange Connecting an Existing Roadway with a New Roadway**

*(This scenario is oriented toward projects where a new roadway segment connects to an existing limited access highway. The purpose of the roadway is primarily to meet regional travel needs, e.g., by providing a more direct route between locations.)*

For each alternative in this EIS/EA (*specify*), the amount of MSAT emitted would be proportional to the vehicle miles traveled, or VMT, assuming that other variables such as fleet mix are the same for each alternative. Because the VMT estimated for the No Build Alternative is higher than for any of the Build Alternatives, higher levels of MSAT are not expected from any of the Build Alternatives compared to the No Build. Refer to Table \_\_\_\_ (*specify*). In addition, because the estimated VMT under each of the Build Alternatives are nearly the same, varying by less than \_\_\_\_ (*specify*) percent, it is expected there would be no appreciable difference in overall MSAT emissions among the various alternatives. Also, regardless of the alternative chosen, emissions will likely be lower than present levels in the design year as a result of EPA's national control programs that are projected to reduce annual MSAT emissions by over 80 percent from 2010 to 2050. Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. However, the magnitude of the EPA-projected reductions is so great (even after accounting for VMT growth) that MSAT emissions in the study area are likely to be lower in the future in virtually all locations.

Under each alternative there may be localized areas where VMT would increase, and other areas where VMT would decrease. Therefore, it is possible that localized increases and decreases in MSAT emissions may occur. The localized increases in MSAT emissions would likely be most pronounced along the new roadway sections that would be built at \_\_\_\_ (*specify location*), under Alternatives \_\_\_\_ (*specify*), and along \_\_\_\_ (*specify route*) under Alternatives \_\_\_\_ (*specify*). However, even if these increases do occur, they too will be substantially reduced in the future due to implementation of EPA's vehicle and fuel regulations.

In sum, under all Build Alternatives in the design year it is expected there would be reduced MSAT emissions in the immediate area of the project, relative to the No Build

Alternative, due to the reduced VMT associated with more direct routing, and due to EPA's MSAT reduction programs.

### **(3) New Interchange Connecting New Roadways**

*(This scenario is oriented toward interchange projects developed in response to or in anticipation of economic development, e.g., a new interchange to serve a new shopping/residential development. Projects from the previous example may also have economic development associated with them, so some of this language may also apply.)*

For each alternative in this EIS/EA (*specify*), the amount of MSAT emitted would be proportional to the vehicle miles traveled, or VMT, assuming that other variables such as fleet mix are the same for each alternative. The VMT estimated for each of the Build Alternatives is slightly higher than that for the No Build Alternative, because the interchange facilitates new development that attracts trips that would not otherwise occur in the area. Refer to Table \_\_\_\_ (*specify*). This increase in VMT means MSAT under the Build Alternatives would probably be higher than the No Build Alternative in the study area. There could also be localized differences in MSAT from indirect effects of the project such as associated access traffic, emissions of evaporative MSAT (e.g., benzene) from parked cars, and emissions of diesel particulate matter from delivery trucks (*modify depending on the type and extent of the associated development*). Travel to other destinations would be reduced with subsequent decreases in emissions at those locations.

Because the estimated VMT under each of the Build Alternatives are nearly the same, varying by less than \_\_\_\_ (*specify*) percent, it is expected there would be no appreciable difference in overall MSAT emissions among the various Build Alternatives. For all Alternatives, emissions are virtually certain to be lower than present levels in the design year as a result of EPA's national control programs that are projected to reduce annual MSAT emissions by over 80 percent from 2010 to 2050. Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. However, the magnitude of the EPA-projected reductions is so great (even after accounting for VMT growth) that MSAT emissions in the study area are likely to be lower in the future than they are today.

*(The following discussion would apply to new interchanges in areas already developed to some degree. For new construction in anticipation of economic development in rural or largely undeveloped areas, this discussion would be applicable only to populated areas, such as residences, schools, and businesses.)*

The travel lanes contemplated as part of the project alternatives will have the effect of moving some traffic closer to nearby homes, schools and businesses; therefore, under each alternative there may be localized areas where ambient concentrations of MSAT would be higher under certain Alternatives than others. The localized differences in MSAT concentrations would likely be most pronounced along the new/expanded roadway sections that would be built at \_\_\_\_ (*specify location*), under Alternatives \_\_\_\_ (*specify*), and along \_\_\_\_ (*specify route*) under Alternatives \_\_\_\_ (*specify*).

However, the magnitude and the duration of these potential increases cannot be reliably quantified due to incomplete or unavailable information in forecasting project-specific MSAT health impacts. Further, under all Alternatives, overall future MSAT are expected to be substantially lower than today due to implementation of EPA's vehicle and fuel regulations.

In sum, under all Build Alternatives in the design year it is expected there would be slightly higher MSAT emissions in the study area relative to the No Build Alternative due to increased VMT. There also could be increases in MSAT levels in a few localized areas where VMT increases. However, EPA's vehicle and fuel regulations will bring about significantly lower MSAT levels for the area in the future than today.

### **(4) Minor Improvements or Expansions to Intermodal Centers or Other Projects that Affect Truck Traffic**

*(The description for these types of projects depends on the nature of the project. The key factor from an MSAT standpoint is the change in truck and rail activity and the resulting change in MSAT emissions patterns.)*

For each alternative in this EIS/EA (*specify*), the amount of MSAT emitted would be proportional to the amount of truck vehicle miles traveled (VMT) and rail activity, assuming that other variables (such as travel not associated with the intermodal center) are the same for each alternative. The truck VMT and rail activity estimated for each of the Build Alternatives are higher than that for the No Build Alternative, because of the additional activity associated with the expanded intermodal center. Refer to Table \_\_\_\_ (*specify*). This increase in truck VMT and rail activity associated with the Build Alternatives would lead to higher MSAT emissions (particularly diesel particulate matter) in the vicinity of the intermodal center. The higher emissions could be offset somewhat by two factors: 1) the decrease in regional truck traffic due to increased use of rail for inbound and outbound freight; and 2) increased speeds on area highways due to the decrease in truck traffic. The extent to which these emissions decreases will offset intermodal center-related emissions increases is not known.

Because the estimated truck VMT and rail activity under each of the Build Alternatives are nearly the same, varying by less than \_\_\_\_ (*specify*) percent, it is expected there would be no appreciable difference in overall MSAT emissions among the various alternatives. Also, regardless of the alternative chosen, emissions will likely be lower than present levels in the design year as a result of EPA's national control programs that are projected to reduce annual MSAT emissions by over 80 percent from 2010 to 2050. Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. However, the EPA-projected reductions are so significant (even after accounting for VMT growth) that MSAT emissions in the study area are likely to be lower in the future as well.

*(The following discussion may apply if the intermodal center is close to other development.)*

The additional freight activity contemplated as part of the project alternatives will have the effect of increasing diesel emissions in the vicinity of nearby homes, schools, and businesses; therefore, under each alternative there may be localized areas where ambient concentrations of MSAT would be higher than under the No Build alternative. The localized differences in MSAT concentrations would likely be most pronounced under Alternatives \_\_\_\_\_ (*specify*). However, as discussed above, the magnitude and the duration of these potential differences cannot be reliably quantified due to incomplete or unavailable information in forecasting project-specific health impacts. Even though there may be differences among the Alternatives, on a region-wide basis, EPA's vehicle and fuel regulations, coupled with fleet turnover, will cause substantial reductions over time that in almost all cases the MSAT levels in the future will be significantly lower than today.

*(Insert a description of any emissions-reduction activities that are associated with the project, such as truck and train idling limitations or technologies, such as auxiliary power units; alternative fuels or engine retrofits for container-handling equipment, etc.)*

In sum, all Build Alternatives in the design year are expected to be associated with higher levels of MSAT emissions in the study area, relative to the No Build Alternative, along with some benefit from improvements in speeds and reductions in region-wide truck traffic. There also could be slightly higher differences in MSAT levels among Alternatives in a few localized areas where freight activity occurs closer to homes, schools, and businesses. Under all alternatives, MSAT levels are likely to decrease over time due to nationally mandated cleaner vehicles and fuels.

#### **MSAT MITIGATION STRATEGIES**

Although there is no obligation to identify and consider MSAT mitigation strategies as part of a qualitative analysis, such strategies may be part of a project's design. Refer to the examples provided in (4) Minor Improvements or Expansions to Intermodal Centers or Other Projects that Affect Truck Traffic, or Appendix E. For these and similar circumstances, MSAT mitigation strategies should be discussed as part of a qualitative analysis.

#### **CEQ PROVISIONS COVERING INCOMPLETE OR UNAVAILABLE INFORMATION (40 CFR 1502.22)**

The introductory language for qualitative analysis should be followed by a 40 CFR 1502 assessment of incomplete or unavailable information. Refer to Appendix C for details.

#### **APPENDIX C – CEQ Provisions Covering Incomplete or Unavailable Information (40 CFR 1502.22)**

##### **Sec. 1502.22 INCOMPLETE OR UNAVAILABLE INFORMATION**

When an agency is evaluating reasonably foreseeable significant adverse effects on the human environment in an environmental impact statement and there is incomplete or unavailable information, the agency shall always make clear that such information is lacking.

- (a) If the incomplete information relevant to reasonably foreseeable significant adverse impacts is essential to a reasoned choice among alternatives and the overall costs of obtaining it are not exorbitant, the agency shall include the information in the environmental impact statement.
- (b) If the information relevant to reasonably foreseeable significant adverse impacts cannot be obtained because the overall costs of obtaining it are exorbitant or the means to obtain it are not known, the agency shall include within the environmental impact statement:
  1. a statement that such information is incomplete or unavailable;
  2. a statement of the relevance of the incomplete or unavailable information to evaluating reasonably foreseeable significant adverse impacts on the human environment;
  3. a summary of existing credible scientific evidence which is relevant to evaluating the reasonably foreseeable significant adverse impacts on the human environment; and
  4. the agency's evaluation of such impacts based upon theoretical approaches or research methods generally accepted in the scientific community. For the purposes of this section, "reasonably foreseeable" includes impacts that have catastrophic consequences, even if their probability of occurrence is low, provided that the analysis of the impacts is supported by credible scientific evidence, is not based on pure conjecture, and is within the rule of reason.
- (c) The amended regulation will be applicable to all environmental impact statements for which a Notice to Intent (40 CFR 1508.22) is published in the Federal Register on or after May 27, 1986. For environmental impact statements in progress, agencies may choose to comply with the requirements of either the original or amended regulation.

##### **INCOMPLETE OR UNAVAILABLE INFORMATION FOR PROJECT-SPECIFIC MSAT HEALTH IMPACTS ANALYSIS**

In FHWA's view, information is incomplete or unavailable to credibly predict the project-specific health impacts due to changes in MSAT emissions associated with a proposed set of highway alternatives. The outcome of such an assessment, adverse or not,

would be influenced more by the uncertainty introduced into the process through assumption and speculation rather than any genuine insight into the actual health impacts directly attributable to MSAT exposure associated with a proposed action.

The U.S. Environmental Protection Agency (EPA) is responsible for protecting the public health and welfare from any known or anticipated effect of an air pollutant. They are the lead authority for administering the Clean Air Act and its amendments and have specific statutory obligations with respect to hazardous air pollutants and MSAT. The EPA is in the continual process of assessing human health effects, exposures, and risks posed by air pollutants. They maintain the Integrated Risk Information System (IRIS), which is “a compilation of electronic reports on specific substances found in the environment and their potential to cause human health effects” (EPA, <https://www.epa.gov/iris/>). Each report contains assessments of non-cancerous and cancerous effects for individual compounds and quantitative estimates of risk levels from lifetime oral and inhalation exposures with uncertainty spanning perhaps an order of magnitude.

Other organizations are also active in the research and analyses of the human health effects of MSAT, including the Health Effects Institute (HEI). Two HEI studies are summarized in Appendix D of FHWA’s Interim Guidance Update on Mobile source Air Toxic Analysis in NEPA Documents. Among the adverse health effects linked to MSAT compounds at high exposures are; cancer in humans in occupational settings; cancer in animals; and irritation to the respiratory tract, including the exacerbation of asthma. Less obvious is the adverse human health effects of MSAT compounds at current environmental concentrations (HEI, <http://pubs.healtheffects.org/view.php?id=282>) or in the future as vehicle emissions substantially decrease (HEI, <http://pubs.healtheffects.org/view.php?id=306>).

The methodologies for forecasting health impacts include emissions modeling; dispersion modeling; exposure modeling; and then final determination of health impacts – each step in the process building on the model predictions obtained in the previous step. All are encumbered by technical shortcomings or uncertain science that prevents a more complete differentiation of the MSAT health impacts among a set of project alternatives. These difficulties are magnified for lifetime (i.e., 70 year) assessments, particularly because unsupportable assumptions would have to be made regarding changes in travel patterns and vehicle technology (which affects emissions rates) over that time frame, since such information is unavailable.

It is particularly difficult to reliably forecast 70-year lifetime MSAT concentrations and exposure near roadways; to determine the portion of time that people are actually exposed at a specific location; and to establish the extent attributable to a proposed action, especially given that some of the information needed is unavailable.

There are considerable uncertainties associated with the existing estimates of toxicity of the various MSAT, because of factors such as low-dose extrapolation and translation of occupational exposure data to the general population, a concern expressed by HEI (<http://pubs.healtheffects.org/view.php?id=282> ). As a result, there is no national

consensus on air dose-response values assumed to protect the public health and welfare for MSAT compounds, and in particular for diesel PM. The EPA (<http://www.epa.gov/risk/basicinformation.htm#g> ) and the HEI (<http://pubs.healtheffects.org/getfile.php?u=395>) have not established a basis for quantitative risk assessment of diesel PM in ambient settings.

There is also the lack of a national consensus on an acceptable level of risk. The current context is the process used by the EPA as provided by the Clean Air Act to determine whether more stringent controls are required in order to provide an ample margin of safety to protect public health or to prevent an adverse environmental effect for industrial sources subject to the maximum achievable control technology standards, such as benzene emissions from refineries. The decision framework is a two-step process. The first step requires EPA to determine an “acceptable” level of risk due to emissions from a source, which is generally no greater than approximately 100 in a million. Additional factors are considered in the second step, the goal of which is to maximize the number of people with risks less than 1 in a million due to emissions from a source. The results of this statutory two-step process do not guarantee that cancer risks from exposure to air toxics are less than 1 in a million; in some cases, the residual risk determination could result in maximum individual cancer risks that are as high as approximately 100 in a million. In a June 2008 decision, the U.S. Court of Appeals for the District of Columbia Circuit upheld EPA’s approach to addressing risk in its two step decision framework. Information is incomplete or unavailable to establish that even the largest of highway projects would result in levels of risk greater than deemed acceptable.

Because of the limitations in the methodologies for forecasting health impacts described, any predicted difference in health impacts between alternatives is likely to be much smaller than the uncertainties associated with predicting the impacts. Consequently, the results of such assessments would not be useful to decision makers, who would need to weigh this information against project benefits, such as reducing traffic congestion, accident rates, and fatalities plus improved access for emergency response, that are better suited for quantitative analysis.

Due to the limitations cited, a discussion such as the example provided in this Appendix (reflecting any local and project-specific circumstances), should be included regarding incomplete or unavailable information in accordance with Council on Environmental Quality (CEQ) regulations [40 CFR 1502.22(b)]. The FHWA Headquarters and Resource Center staff Victoria Martinez (787) 766-5600 X231, Bruce Bender (202) 366-2851, and Michael Claggett (505) 820-2047, are available to provide guidance and technical assistance and support.

## APPENDIX D – FHWA Sponsored Mobile Source Air Toxics Research Efforts

Human epidemiology and animal toxicology experiments indicate that many chemicals or mixtures termed air toxics have the potential to impact human health. As toxicology, epidemiology and air contaminant measurement techniques have improved over the decades, scientists and regulators have increased their focus on the levels of each chemical or material in the air in an effort to link potential exposures with potential health effects. The EPA's list of 21 mobile source toxics represents their prioritization of these chemicals or materials for further study and evaluation. The EPA's strategy for evaluating air toxic compounds effects is focused on both national trends and local impacts. The FHWA has embarked on an air toxics research program with the intent of understanding the mobile source contribution and its impact on local and national air quality. Several of studies either initiated or supported by FHWA are described below<sup>1</sup>.

Air toxics emissions from mobile sources have the potential to impact human health and often represent a regulatory agency concern. The FHWA has responded to this concern by developing an integrated research program to answer the most important transportation community questions related to air toxics, human health, and the NEPA process. To this end, FHWA has performed, funded or is currently managing several research projects. Many of these projects are based on an Air Toxics Research Workplan that provides a roadmap for agency research efforts<sup>2</sup>. These efforts include:

### THE NATIONAL NEAR ROADWAY MSAT STUDY

The FHWA, in conjunction with the EPA and a consortium of State departments of transportation, studied the concentration and physical behavior of MSAT and mobile source PM 2.5 in Las Vegas, Nevada and Detroit, Michigan. The study criteria dictated that the study site be open to traffic and have 150,000 Annual Average Daily Traffic or more. These studies were intended to provide knowledge about the dispersion of MSAT emissions with the ultimate goal of enabling more informed transportation and environmental decisions at the project-level. These studies are unique in that the monitored data was collected for the entire year. The Las Vegas, NV report revealed there are a large number of influences in this urban setting and researchers must look beyond the roadway to find all the sources in the near road environment. Additionally, in Las Vegas, meteorology played a large role in the concentrations measured in the near road study area. More information is available at <http://www.fhwa.dot.gov/environment/airtoxicmsat/index.htm>.

<sup>1</sup> The information provided here is an update to research work discussed in the 2009 release of this interim guidance. The current title of each research activity is followed by the title used to describe the activity previously.

<sup>2</sup> Available at <http://www.fhwa.dot.gov/environment/airtoxic/workplan/index.htm>

## TRAFFIC-RELATED AIR POLLUTION

### Going One Step Beyond: A Neighborhood Scale Air Toxics Assessment in North Denver (The Good Neighbor Project)

In 2007, the Denver Department of Environmental Health (DDEH) issued a technical report entitled *Going One Step Beyond: A Neighborhood Scale Air Toxics Assessment in North Denver (The Good Neighbor Project)*. This research project was funded by FHWA. In this study, DDEH conducted a neighborhood-scale air toxics assessment in North Denver, which includes a portion of the proposed I-70 East project area. Residents in this area have been very concerned about both existing health effects in their neighborhoods (from industrial activities, hazardous waste sites, and traffic) and potential health impacts from changes to I-70.

The study was designed to compare modeled levels of the six priority MSATs identified in FHWA's 2006 guidance with measurements at existing MSAT monitoring sites in the study area. MOBILE6.2 emissions factors and the ISC3ST dispersion model were used (some limited testing of the CALPUFF model was also performed). Key findings include: 1) modeled mean annual concentrations from highways were well below estimated Integrated Risk Information System (IRIS) cancer and non-cancer risk values for all six MSAT; 2) modeled concentrations dropped off sharply within 50 meters of roadways; 3) modeled MSAT concentrations tended to be higher along highways near the Denver Central Business District (CBD) than along the I-70 East corridor (in some cases, they were higher within the CBD itself, as were the monitored values); and 4) dispersion model results were generally lower than monitored concentrations but within a factor of two at all locations.

### Mobile Source Air Toxic Hot Spot

Given concerns about the possibility of MSAT exposure in the near road environment, The Health Effects Institute (HEI) dedicated a number of research efforts at trying to find a MSAT "hotspot." In 2011 three studies were published that tested this hypothesis. In general the authors confirm that while highways are a source of air toxics, they were unable to find that highways were the only source of these pollutants and determined that near road exposures were often no different or no higher than background or ambient levels of exposure, and hence no true hot spots were identified. These links provide additional information <http://pubs.healtheffects.org/getfile.php?u=659> page 137, <http://pubs.healtheffects.org/getfile.php?u=656> page 143, and <http://pubs.healtheffects.org/getfile.php?u=617> page 87, where monitored on-road emissions were higher than emission levels monitored near road residences, but the issue of hot spot was not ultimately discussed.

### **Traffic-Related Air Pollution: A Critical Review of the Literature on Emissions, Exposure, and Health Effects**

In January 2010, HEI released Special Report #17, investigating the health effects of traffic related air pollution. The goal of the research was to synthesize available information on the effects of traffic on health. Researchers looked at linkages between: (1) traffic emissions (at the tailpipe) with ambient air pollution in general, (2) concentrations of ambient pollutants with human exposure to pollutants from traffic, (3) exposure to pollutants from traffic with human-health effects and toxicologic data, and (4) toxicologic data with epidemiological associations. Challenges in making exposure assessments, such as quality and quantity of emissions data and models, were investigated, as was the appropriateness of the use of proximity as an exposure-assessment model. Overall, researchers felt that there was “sufficient” evidence for causality for the exacerbation of asthma. Evidence was “suggestive but not sufficient” for other health outcomes such as cardiovascular mortality and others. Study authors also note that past epidemiologic studies may not provide an appropriate assessment of future health associations as vehicle emissions are decreasing overtime. The report is available from HEI’s website at <http://www.healtheffects.org/>. The FHWA provides financial support to HEI’s research work.

### **HEI SPECIAL REPORT #16**

In November 2007, the HEI published Special Report #16: Mobile-Source Air Toxics: A Critical Review of the Literature on Exposure and Health Effects. The purpose of this Report was to accomplish the following tasks:

- Use information from the peer-reviewed literature to summarize the health effects of exposure to the 21 MSATs defined by the EPA in 2001;
- Critically analyze the literature for a subset of priority MSAT; and
- Identify and summarize key gaps in existing research and unresolved questions about the priority MSAT.

The HEI chose to review literature for acetaldehyde, acrolein, benzene, 1,3-butadiene, formaldehyde, naphthalene, and polycyclic organic matter (POM). Diesel exhaust was included, but not reviewed in this study since it had been reviewed by HEI and EPA recently. In general, the Report concluded that the cancer health effects due to mobile sources are difficult to discern since the majority of quantitative assessments are derived from occupational cohorts with high concentration exposures and some cancer potency estimates are derived from animal models. The Report suggested that substantial improvements in analytical sensitivity and specificity of biomarkers would provide better linkages between exposure and health effects. Noncancer endpoints were not a central focus of most research, and therefore require further investigation. Subpopulation susceptibility also requires additional evaluation. The study is available from HEI’s website at <http://www.healtheffects.org/>.

### **KANSAS CITY PM CHARACTERIZATION STUDY (KANSAS CITY STUDY)**

This study was initiated by EPA to conduct exhaust emissions testing on 480 light-duty, gasoline vehicles in the Kansas City Metropolitan Area (KCMA). Major goals of the study included characterizing PM emissions distributions of a sample of gasoline vehicles in Kansas City; characterizing gaseous and PM toxics exhaust emissions; and characterizing the fraction of high emitters in the fleet. In the process, sampling methodologies were evaluated. Overall, results from the study were used to populate databases for the MOVES emissions model. The FHWA was one of the research sponsors. This study is available on EPA’s website at: <http://www.epa.gov/otaq/emission-factors-research/420r08009.pdf>

### **ESTIMATING THE TRANSPORTATION CONTRIBUTION TO PARTICULATE MATTER POLLUTION (AIR TOXICS SUPERSITE STUDY)**

The purpose of this study was to improve understanding of the role of highway transportation sources in particulate matter (PM) pollution. In particular, it was important to examine uncertainties, such as the effects of the spatial and temporal distribution of travel patterns, consequences of vehicle fleet mix and fuel type, the contribution of vehicle speed and operating characteristics, and influences of geography and weather. The fundamental methodology of the study was to combine EPA research-grade air quality monitoring data in a representative sample of metropolitan areas with traffic data collected by State departments of transportation (DOTs) and local governments.

Phase I of the study, the planning and data evaluation stage, assessed the characteristics of EPA’s ambient PM monitoring initiatives and recruited State DOTs and local government to participate in the research. After evaluating and selecting potential metropolitan areas based on the quality of PM and traffic monitoring data, nine cities were selected to participate in Phase II. The goal of Phase II was to determine whether correlations could be observed between traffic on highway facilities and ambient PM concentrations. The Phase I report was published in September 2002. Phase II included the collection of traffic and air quality data and data analysis. Ultimately, six cities participated: New York City (Queens), Baltimore, Pittsburgh, Atlanta, Detroit and Los Angeles.

In Phase II, air quality and traffic data were collected. The air quality data was obtained from EPA AIRS AQS system, Supersite personnel, and NARSTO data archive site. Traffic data included ITS (roadway surveillance), Coverage Counts (routine traffic monitoring) and Supplemental Counts (specifically for research project). Analyses resulted in the conclusion that only a weak correlation existed between PM<sub>2.5</sub> concentrations and traffic activity for several of the sites. The existence of general trends indicates a relationship, which however is primarily unquantifiable. Limitations of the study include the assumption that traffic sources are close enough to ambient monitors to provide sufficiently strong source strength, that vehicle activity is an appropriate surrogate for mobile emissions, and lack of knowledge of other factors such as non-traffic



sources of PM and its precursors. A paper documenting the work of Phase II was presented at the 2004 Emissions Inventory Conference and is available at <http://www.epa.gov/ttn/chief/conference/ei13/mobile/black.pdf>.

## **APPENDIX E – MSAT Mitigation Strategies**

Lessening the effects of mobile source air toxics should be considered for projects with substantial construction-related MSAT emissions that are likely to occur over an extended building period, and for post-construction scenarios where the NEPA analysis indicates potentially meaningful MSAT levels. Such mitigation efforts should be evaluated based on the circumstances associated with individual projects, and they may not be appropriate in all cases. However, there are a number of available mitigation strategies and solutions for countering the effects of MSAT emissions.

### **Mitigating for Construction MSAT Emissions**

Construction activity may generate a temporary increase in MSAT emissions. Project-level assessments that render a decision to pursue construction emission mitigation will benefit from a number of technologies and operational practices that should help lower short-term MSAT. In addition, the Federal Highway Administration has supported a host of diesel retrofit technologies in the Congestion Mitigation and Air Quality Improvement (CMAQ) Program provisions – technologies that are designed to lessen a number of MSATs.<sup>1</sup>

Construction mitigation includes strategies that reduce engine activity or reduce emissions per unit of operating time, such as reducing the numbers of trips and extended idling. Operational agreements that reduce or redirect work or shift times to avoid community exposures can have positive benefits when sites are near populated areas. For example, agreements that stress work activity outside normal hours of an adjacent school campus would be operations-oriented mitigation. Verified emissions control technology retrofits or fleet modernization of engines for construction equipment could be appropriate mitigation strategies. Technology retrofits could include particulate matter traps, oxidation catalysts, and other devices that provide an after-treatment of exhaust emissions. Implementing maintenance programs per manufacturers' specifications to ensure engines perform at EPA certification levels, as applicable, and to ensure retrofit technologies perform at verified standards, as applicable, could also be deemed appropriate. The use of clean fuels, such as ultra-low sulfur diesel, biodiesel, or natural gas also can be a very cost-beneficial strategy.

The EPA has listed a number of approved diesel retrofit technologies; many of these can be deployed as emissions mitigation measures for equipment used in construction. This listing can be found at: [www.epa.gov/otaq/retrofit/index.htm](http://www.epa.gov/otaq/retrofit/index.htm).

### **Post-Construction Mitigation for Projects with Potentially Significant MSAT Levels**

Travel demand management strategies and techniques that reduce overall vehicle-mile of travel; reduce a particular type of travel, such as long-haul freight or commuter travel; or improve the transportation system's efficiency will mitigate MSAT emissions. Examples of such strategies include congestion pricing, commuter incentive programs, and increases in truck weight or length limits. Operational strategies that focus on speed limit

enforcement or traffic management policies may help reduce MSAT emissions even beyond the benefits of fleet turnover. Well-traveled highways with high proportions of heavy-duty diesel truck activity may benefit from active Intelligent Transportation System programs, such as traffic management centers or incident management systems. Similarly, anti-idling strategies, such as truck-stop electrification can complement projects that focus on new or increased freight activity.

Planners also may want to consider the benefits of establishing buffer zones between new or expanded highway alignments and populated areas. Modifications of local zoning or the development of guidelines that are more protective also may be useful in separating emissions and receptors.

The initial decision to pursue MSAT emissions mitigation should be the result of interagency consultation at the earliest juncture. Options available to project sponsors should be identified through careful information gathering and the required level of deliberation to assure an effective course of action. Such options may include local programs, whether voluntary or with incentives, to replace or rebuild older diesel engines with updated emissions controls. Information on EPA diesel collaborative around the country can be found at <http://www.epa.gov/otaq/diesel/whereyoulive.htm>.

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<sup>1</sup>

[http://www.fhwa.dot.gov/environment/air\\_quality/cmaq/policy\\_and\\_guidance/2008\\_guidance/index.cfm](http://www.fhwa.dot.gov/environment/air_quality/cmaq/policy_and_guidance/2008_guidance/index.cfm)