

US EPA ARCHIVE DOCUMENT

## Appendix J – Environmental Mitigation Projects

In accordance with, and in addition to, the provisions of Section XV of this Consent Decree (Environmental Mitigation Projects), Defendants shall comply with the provisions of this Appendix to ensure that the benefits of \$2 million in federally directed Environmental Mitigation Projects are achieved.

### I. Overall Environmental Mitigation Projects Schedule and Budget

A. Within 10 months of the Effective Date of this Consent Decree, unless extended by EPA and as further described below, Defendants shall submit plans to EPA for review and approval for completing \$2 million in the federally directed Environmental Mitigation Projects specified in this Appendix, spread out over the course of, but within, four (4) years from the Effective Date of this Consent Decree. The plans may include any of the seven (7) projects listed below, but must include the following 4 (four) projects: Provision II. (Clean Diesel Retrofit Project), IV. (School Laboratory Clean-Out), V. (School Energy Efficiency Projects), and VI. (Ground Source Heat Pumps). The minimum and maximum amounts listed for each project herein, if specified, will apply unless alternative amounts are approved by EPA. In addition, Defendants may submit to EPA additional projects to those listed herein within 6 months of the Effective Date of the Consent Decree. Defendants must submit the details of any alternative projects and proposed cost with an explanation of environmental benefit and the manner in which the proposed additional project will mitigate the effect of Defendants' prior actions. EPA will consult with MDNR before approving or commenting on any plans or proposed additional projects in accordance with Section XII of this Consent Decree (Compliance Requirements: Approval of Deliverables). The decision whether to approve an additional project submitted by Defendants under this Paragraph shall be made in EPA's, after consultation with the State, sole and unreviewable discretion and such decision shall not be subject to challenge by Defendants pursuant to the dispute resolution provisions of this Consent Decree or in any other form. The purpose of the Environmental Mitigation Projects shall be to mitigate the effects of Defendants' actions in the period during which the allegations set forth in the Complaint transpired. As part of each plan submitted, Defendants shall explain the manner in which the Project will mitigate the effect of the Defendants' prior actions.

B. Defendants may, at their election, consolidate the plans established by this Appendix into a single plan.

C. Within 90 days of the approval of the plans by EPA and thereafter as part of the six-month status reports required pursuant to Section XVI (Reporting Requirements) of this Consent Decree until completion of each Project (including any applicable periods of demonstration or testing), Defendants shall provide the United States and the MDNR with written reports detailing the progress of each Project, including Project Dollars.

D. As part of the next six-month status report required pursuant to Section XVI (Reporting Requirements) of this Consent Decree that is due following the completion of each Project agreed to under this Consent Decree (including any applicable periods of demonstration or testing), Defendants shall submit to the United States and MDNR a report that documents the date the Project was completed, the results of implementing the Project, including the emissions reductions or other environmental benefits achieved, and the Project Dollars expended by Defendants in implementing the Project.

E. Upon EPA's approval of the plans proposed in this Appendix, Defendants shall complete the Environmental Mitigation Projects according to the approved plans. Nothing in the Consent Decree or this Appendix shall be interpreted to prohibit Defendants from completing the Environmental Mitigation Projects before the deadlines specified in the schedule of an approved plan. Nothing in this Consent Decree or Appendix shall prohibit the modification of the plans, projects, or schedules, if approved by EPA. Any modifications approved by EPA are not "material modifications" to the Consent Decree.

## II. Clean Diesel Retrofit Project

A. Defendants shall submit a plan for EPA review and approval, in consultation with MDNR, to retrofit in-service diesel engines with emission control equipment further described in this Section, designed to reduce emissions of particulates and/or ozone precursors and fund operation and maintenance of the retrofit equipment for the time-period described below (the "Clean Diesel Retrofit Project"). Eligible vehicles, engines, and equipment may be owned or operated by or on behalf of a public entity. Preference shall be given to school buses. Eligible vehicles could also include vehicles owned or operated by Defendants' contract haulers. Defendants use contractors to haul lead concentrate and other materials throughout Missouri. These contractor vehicles use diesel gasoline-powered vehicles. The retrofit of these diesel engines and the use of hybrid engine technologies in these contractor vehicles will improve fuel efficiency and reduce emissions of NO<sub>x</sub>, PM, VOCs, and other air pollutants. This Project shall include, where necessary, techniques, administration and infrastructure needed to support the Clean Diesel Retrofit Project. Defendants shall spend no less than \$300,000 in Project Dollars on the Diesel Retrofits.

B. The plan shall also satisfy the following criteria:

1. Involve public fleets based in and equipment located in Jefferson County, Missouri; if sufficient projects cannot be found in Jefferson County, projects may involve public fleets and equipment located in Dent County, Iron County, Washington County, Scott County, or Reynolds County, Missouri. If Defendants cannot find a public fleet(s) appropriate for the Diesel Retrofit Project or cannot use all of the Project Dollars on a public fleet, Defendants may spend Project Dollars to retrofit their contractor fleets and equipment. If Defendants use

Project Dollars on retrofits for contractor fleets and equipment, Defendants shall state why those Project Dollars were not allocated to a public fleet(s).

2. Provide for the retrofit of diesel engines with EPA verified emissions control technologies to achieve the greatest measurable mass reductions of particulates and/or ozone precursors for the fleet that participate(s) in this project. Depending upon the particular EPA-verified emissions control technology selected, the retrofit diesel engines must achieve emissions reductions of particulates and/or ozone precursors by 30%-90%, as measured from the pre-retrofit emissions for the particular diesel engine.

3. Describe the process Defendants will use to determine the most appropriate emissions control technology for each diesel engine that will achieve the greatest mass reduction of particulates and/or ozone precursors. In making this determination, Defendants must take into account the particular operating criteria for the EPA-verified emissions control technology to achieve the verified emissions reductions.

4. Provide for the retrofit of diesel engines with either: (a) diesel particulate filters, (b) diesel oxidation catalysts and closed crankcase ventilation systems, or (c) EPA-verified idling reduction technologies; cleaner fuel use; EPA-verified aerodynamics technologies and low rolling resistance tires; and engine re-powering (i.e. replacing older engines with newer, clean engines).

5. Describe the process Defendants will use to notify fleet operators and owners that their fleet may be eligible to participate in the Clean Diesel Retrofit Project and to solicit their interest in participating in the project.

6. Describe the process and criteria Defendants will use to select the particular fleet to participate in this project, consistent with the requirements of this Section.

7. For each of the recipient fleet owners and operators describe the amount of Project Dollars that will cover the costs associated with: (a) purchasing the verified emissions control technology; (b) installation of the verified emissions control technology (including data logging); and (c) training costs associated with repair and maintenance of the verified emissions control technology (including technology cleaning and proper disposal of waste generated from cleaning). This project shall not include costs for normal repair or operation of the retrofit diesel fleet.

8. Describe the process Defendants will use for determining which diesel engines in a particular fleet will be included in the Clean Diesel Retrofit Project with the verified emissions control technology, consistent with the criteria specified in Section II. B. 2., above.

9. Ensure that recipient fleet owners and/or operators, or their funders, do not otherwise have a legal obligation to reduce emissions through the retrofit of diesel engines.

10. For any outside party with whom Defendants might contract to carry out this Project, establish minimum standards that include prior experience in a Clean Diesel Retrofit Project and a record of prior ability to interest and organize fleets and community groups to join a clean diesel program.

11. Ensure that the recipient fleets comply with local, state, and federal requirements for the disposal of the waste generated from the verified emissions control technology.

12. Include a schedule and budget for completing each portion of the Project.

C. In addition to the information required to be included in the report pursuant to Section I. C. above, Defendants shall also describe the fleet owner/operator; where they implemented this project; the particular types of verified emissions control technology (and the number of each type) that they installed pursuant to this Project; the type, year, and horsepower of each retrofit; an estimate of the number of citizens affected (if applicable) by this project and the basis for this estimate; and an estimate of the emission reductions for each project or engine, as appropriate (using the manufacturer's estimated reductions for the particular verified emissions control technology), including particulates, hydrocarbons, carbon monoxide, and nitrogen oxides.

D. Defendants shall complete the retrofit projects required by this paragraph within four (4) years from the date entry of the Consent Decree.

### III. Purchase and Retirement of SO<sub>2</sub> Allowances

A. If this project is selected, Defendants shall submit a plan to EPA for review and approval, in consultation with MDNR, to purchase and retire SO<sub>2</sub> allowances. Defendants shall spend no more than \$200,000 in Project Dollars on the project. Although the Defendants' Herculaneum Lead Smelter is not required to purchase SO<sub>2</sub> allowances under Title IV of the Clean Air Act, the smelter contributes significant amounts of SO<sub>2</sub> to the atmosphere. SO<sub>2</sub> is a criteria pollutant that, when emitted into the air, can adversely impact human health and the environment. SO<sub>2</sub> interacts with other chemicals in the atmosphere to form sulfate aerosols, which can be transported long distances. In the eastern United States, sulfate aerosols make up about 25 percent of all inhalable particles, and according to recent studies, high levels of sulfate aerosols in the air are associated with increased sickness and mortality from lung disorders, such as asthma and bronchitis.

B. Defendants' proposed plan shall also satisfy the following criteria:

1. Include a description of the transfer of any allowances purchased and retired directly to a non-profit third party. The plan shall: (i) identify the non-profit third party recipient(s) of the SO<sub>2</sub> allowances and list the serial numbers of the transferred allowances; and (ii) include a certification by the non-profit third-party recipient(s) stating that the recipient(s) will not sell, trade, or otherwise exchange any of the allowances and will not use any of the SO<sub>2</sub> allowances to meet any obligation imposed by environmental law. Defendants shall include a statement that the non-profit third-party recipient(s) surrendered the SO<sub>2</sub> allowances for permanent surrender to EPA in accordance with the plan within one (1) year after Defendants transferred allowances to them. Defendants shall not have completed this Project until all third party recipient(s) have actually surrendered the transferred SO<sub>2</sub> allowances to EPA.

2. Provide, for all SO<sub>2</sub> allowances to be retired by Defendants or the third party transferee, an SO<sub>2</sub> allowance transfer request to EPA's Office of Air and Radiation's Clean Air Markets Division directing the transfer of such SO<sub>2</sub> allowances to the EPA Enforcement Surrender Account or to any other EPA account that EPA may direct in writing. As part of submitting these transfer requests, Defendants or the third party recipient(s) shall irrevocably authorize the transfer of these SO<sub>2</sub> allowances and identify by name of account and any applicable serial or other identification numbers or station names the source and location of the SO<sub>2</sub> allowances being retired.

3. Include a schedule for completing each portion of the project.

4. Describe generally the expected environmental benefits of the project.

E. Upon approval of the plan by the EPA, Defendants shall complete the mitigation project according to the approved plan and schedule, but in no event later than four (4) years from the date entry of the Consent Decree.

#### IV. School Laboratory Clean-Out

A. Defendants shall submit a plan to EPA for review and approval, in consultation with MDNR, to clean out local school laboratories. Defendants shall spend no less than \$200,000 in Project Dollars on the project. Hazardous waste management in high schools is a growing concern in Region 7. In many instances, hazardous chemical wastes are stored for lengthy periods far in excess of RCRA's regulatory limits. This project will not only result in the removal of currently existing hazardous waste stored, but will also provide an excellent opportunity to provide training to school personnel who manage the laboratories.

B. Defendants' proposed plan shall also satisfy the following requirements:

1. Involve a school(s) in Jefferson County; if such school(s) are not available, the plan may involve a school(s) in Dent County, Iron County, Washington County, Scott County, or Reynolds County, Missouri to receive the services described herein and name such school in the proposed plan. If an appropriate school cannot be found in those counties, Defendants shall propose another appropriate school or schools in the proposed plan and the reason for proposing that school(s).

2. Provide for Defendants to retain a third-party contractor to perform a laboratory assessment that will identify laboratory materials that need to be managed properly and/or disposed. Laboratory materials that need to be disposed of will be removed and disposed of in accordance with regulatory requirements. The services described in this subparagraph shall be performed by a third-party contractor at Defendants' cost.

3. Provide chemical management training for school personnel responsible for managing the laboratory that will focus on, at a minimum, RCRA regulatory requirements, hazardous waste determinations, classification, segregation, management control, and disposal processes for spent chemical waste. Defendants shall place an emphasis on waste minimization and pollution prevention.

4. Describe how Defendants will assist the school in developing a chemical management plan that includes a basic process to properly identify, segregate, store and dispose of waste chemicals in accordance with regulatory requirements and best management practices. Part of this chemical management plan will include a spreadsheet or other system for tracking chemical inventory and training associated with the tracking program.

5. Include a schedule for completing each portion of the project.

6. Describe generally the expected environmental benefits of the project.

7. Provide that Defendants are not obligated to complete the manifests and generator, transporter or facility reports associated with implementation of this Project, but shall train and assist the high school personnel in the proper completion of any documents required by applicable regulatory requirements that are necessary for proper disposal of the waste removed during performance of the Project.

C. Upon approval of the plan by the EPA, Defendants shall complete the mitigation project according to the approved plan and schedule, but in no event later than four (4) years from the date of entry of the Consent Decree.

V. School Energy Efficiency Projects

A. Defendants shall submit a plan to EPA for review and approval, in consultation with MDNR, to improve energy efficiency in area schools. Defendants shall spend no less than \$300,000 in Project Dollars on this project. Schools spend more money on energy than any other expense except personnel. Energy efficient schools can lower a school district's operating costs by up to 30%. Schools are a great place to teach the nation's children about energy and resource conservation.

B. Defendants' proposed plan shall also satisfy the following requirements:

1. Involve a school(s) in Jefferson County; if school(s) are not available in Jefferson County, the plan may involve school(s) in Dent County, Iron County, Washington County, Scott County, or Reynolds County, Missouri to receive the services described herein and name such school in the proposed plan. If an appropriate school cannot be found in those counties, Defendants shall propose another appropriate school or schools in the proposed plan.
2. Provide a baseline of energy use for the selected school(s), if possible, which will allow the school to measure the project's success and to identify problem areas.
3. Describe the need for retrofits and consider what new equipment and/or energy-efficient technology the selected school(s) might need (e.g. lighting retrofits, motion sensors, LED exit lights, updating or upgrading HVAC systems, insulation upgrades, or energy efficient office equipment) or develop one or more demonstration projects that would reduce the school's energy costs and serve as an educational tool for students and the community (e.g. photovoltaics project, micro wind turbines, or fuel cell technology).
4. Describe the nature and cost of each energy efficiency measure or demonstration project to be implemented at the selected school(s).
5. Include a training program for school officials or personnel who will be involved in implementing the energy efficiency projects.
6. Include a schedule for completing each portion of the project.
7. Describe generally the expected environmental benefits of the project.

D. Upon approval of the plan by the EPA, Defendants shall complete the mitigation project according to the approved plan and schedule, but in no event later than four (4) years from the date entry of the Consent Decree.

## VI. Ground Source Heat Pumps

A. Defendants shall submit a plan to EPA for review and approval, in consultation with MDNR, to install ground source heat pumps to improve heating and cooling efficiency of buildings. Defendants shall spend no less than \$300,000 in Project Dollars on this project. Ground source heat pumps (GSHP) are electrically powered systems that tap the stored energy of the earth. These systems use the relatively consistent earth's temperature to provide heating, cooling and hot water to homes and commercial buildings. The GSHP is one of the most efficient residential heating and cooling systems available today, with heating efficiencies 50 to 70% higher than other heating systems and cooling efficiencies 20 to 40% higher than available air conditioners.

B. Defendants' proposed plan shall also satisfy the following requirements:

1. Describe the buildings at which Defendants will install the GSHP. Defendants may install GSHP on commercial buildings owned or operated by Defendants or Defendants may work with a public entity (e.g. city, county) to install GSHP on buildings owned or operated by that public entity. The buildings or public entity shall be located in Jefferson County; if such building or entity(ies) is not available in Jefferson County, the project may involve a building or public entity in Dent County, Iron County, Washington County, Scott County, or Reynolds County, Missouri.

2. Provide for the construction and installation of GSHP with established technologies.

3. Account for hardware procurement and installation costs at the recipient location. For any outside party with whom Defendants might contract to carry out this Project, establish minimum standards that include prior experience in installing GSHP.

4. Include a schedule for completing each portion of the project.

5. Describe generally the expected environmental benefits of the project.

C. Upon approval of the plan by the EPA, Defendants shall complete the mitigation project according to the approved plan and schedule, but in no event later than four (4) years from the date entry of the Consent Decree.

## VII. Wastewater Infrastructure for the City of Herculaneum, Missouri

A. If this project is selected, Defendants shall submit a plan to EPA for review and approval, in consultation with MDNR, to improve the wastewater

infrastructure for the City of Herculaneum, Missouri. The purpose of improving the City's infrastructure is to improve water quality on a watershed basis.

B. Defendants' proposed plan shall also satisfy the following requirements:

1. Describe in detail the proposed improvements and upgrades to the wastewater infrastructure of the City of Herculaneum, which may, but is not required to include, closure of the wastewater sludge lagoon, if not already completed; and long-term treatment and/or sludge management options for the City of Herculaneum.

2. Describe the involvement of the City of Herculaneum, if any, in the Project.

3. For any outside party with whom Defendants might contract to carry out this Project, establish minimum standards that include prior experience in improving or upgrading wastewater infrastructure.

4. Include a schedule for completing each portion of the project.

5. Describe generally the expected environmental benefits of the project.

C. Upon approval of the plan by the EPA, Defendants shall complete the mitigation project according to the approved plan and schedule, but in no event later than five (5) years from the date entry of the Consent Decree.

#### VIII. Environmental Management System for Doe Run Facilities

A. If this projects is selected, Defendants shall submit a plan to EPA for review and approval, in consultation with MDNR, to implement or update environmental management systems for the Defendants' facilities. An environmental management system (EMS) is a set of processes and practices that enable an organization to reduce its environmental impacts and increase its operating efficiency.

B. Defendants proposed plan shall satisfy the following requirements:

1. Describe how Defendants will establish an EMS in accordance with EPA guidance<sup>1</sup> for the following facilities: Buick Mine/Mill, Buick Resource Recycling, Glover Lead Smelter, Brushy Creek Mine/Mill, Sweetwater Mine/Mill, Viburnum Mine/Mill, Viburnum Mine #35, and the West Fork Unit. If any or all of such facilities currently have an EMS that has been implemented, Defendants shall revise and update their EMS and shall state what actions have been taken to revise and update the EMS.

<sup>1</sup> EPA Guidance can be found at <http://cfpub.epa.gov/compliance/resources/publications/incentives/ems/>.

2. Describe the steps that will be taken to establish and implement or update an EMS at each facility listed above.

3. Provide whether Defendants intend to apply for ISO14001 certification for any or all of the facilities listed above. If Defendants do not intend to apply for ISO14001 certification, Defendants shall state their reason for not applying.

4. Describe generally the expected environmental benefits of the project.

C. Upon completion of each EMS, Defendants shall submit a copy of each EMS to MDNR and EPA.

D. Upon approval of the plan by the EPA, Defendants shall complete the mitigation project according to the approved plan and schedule, but in no event later than four (4) years from the date entry of the Consent Decree.