HAZARDOUS WASTE REDUCTION PLAN

Scope of Plan:

Although this Plan is written to meet the requirements of the Tennessee Hazardous Waste Reduction Act of 1990, the Memphis Shelby County Schools (**MSCS**) waste reduction program applies to all hazardous and non-hazardous wastes generated by all schools and facilities by operations under the School District. It is the scope of this plan to adhere to the EPA's Resource Conservation Recovery Act (**RCRA**).

The Plan includes all the following:

- RCRA Hazardous Wastes, which are given priority.
- Non-hazardous solid wastes (school & office trash, cafeteria wastes).

The Plan calls for positive commitment to its objectives by MSCS administration and management and for involvement of every student, parent, and employee of the School District.

Objectives of the Plan:

The Plan has two objectives:

- To reduce all waste streams (as defined in the statement of the Plan's scope) to the minimum quantity which is technically feasible and economically practical.

- To continue in perpetual effect as an instrument which will:
    a. Maintain MSCS waste awareness.
    b. Ensure on-going review of factors influencing waste generation.
    c. Provide continuing employee training.

Essential Elements of the Plan:

1. A system-wide waste assessment will be conducted no less frequently than annually. The assessment will be conducted by the **Central Accumulation Area (CAA) Coordinator**. The system-wide assessment will be scheduled so that its results will be available to school/facility process teams when they establish their annual goals.

2. All new processes and all major process changes will require a waste stream impact study.

3. Employee training on waste management and waste reduction will be embedded in the existing and on-going Safety and TOSHA Employee Right-To-Know training program. For those employees who are required to have special hazardous materials training, a waste reduction component will be incorporated in that training as well.

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4. Financial tools will be utilized so that the full cost impact of each waste stream generated is tracked.

5. Each school/facility process team will be expected to establish a waste reduction goal and an implementation schedule at the beginning of each school year (July 1 – June 30).

DESCRIPTION OF THE PLAN

1. Administration

The Waste Reduction Plan will be administered and headed by the **Environmental Health & Safety** team. The team will be composed of the following:

- Environmental Health & Safety Manager
- Director of Maintenance
- CAA Coordinator
- Director of Warehouse Operations
- Director of Food & Nutrition Services
- Plant Managers/Building Engineers

The duties of this team will include:

- Administering the Plan
- Scheduling and conducting the annual facility-wide assessment.
- Appointing sub-teams to analyze assessment results, consider options and make recommendations for the entire teams' consideration.
- Meeting regularly to review waste data, project progress and make new assignments.
- Reporting findings, making final recommendations, initiating project requests for implementation and corrective action.
- Preparing the annual progress report and updating the plan goals and implementation schedule as necessary.

2. Training and Employee Involvement

Waste reduction will be incorporated into the existing training curriculum wherein custodial and supervising building engineers are trained in the general nature of chemical hazards, safe operating procedure and use of Safety Data Sheets (SDS's). Employees in a process area (school or other MSCS facility) will be required to evaluate their own area's waste streams (general school refuse and or RCRA wastes) and be provided with resource materials which describe the technology available and currently used for reduction and/or recycling etc. of waste streams of similar nature or in similar processes. Major emphasis will be on preventing waste generation by improved procedures, material recycling or material substitution and process changes.

Employees will participate in tracking the costs of waste in their schools or facilities that is generated and will be expected to use this information in continuous improvement of waste reduction/recycling processes.

3.New Processes, New Products and Major Changes

New processes and products or major changes will be installed only after an analysis of the waste stream impact. New start-ups and major changes will require an estimate of the type and volume of the waste generated, its environmental impact and related costs.

4.Waste Management Cost Accounting

A mass balance analysis and reduction techniques (total pounds, kilograms and/or cubic yards generated per location monthly versus the reduction due to recycling and other reduction efforts). This information will be logged by each school/facility process team leader and reported to the Division of Plant Operations monthly. Because of the differing nature and processing involved in the various wastes, costs will be established in dollars per pound/kilogram or cubic yard on a site-by-site basis.

The elements of the final waste costs will include such items as those listed below:

- Purchase cost of raw materials in the waste (including those lost in the process)
- Labor and/or contractor costs
- Waste analysis and/or storage costs, if applicable
- Waste disposal and/or treatment costs, if applicable, including waste dumpster/storage container rentals or purchase, laboratory fees and hauling or disposal fees, etc.

5. Scope and Overview of the Project

The School District has around 150 schools and school facilities with a student enrollment of approximately 105,000 students making it the 15th largest school system in the nation. Additionally, MSCS employs almost 15,000 full- and part-time employees. Therefore, 15.7% of the Memphis and Shelby County population attends one of our schools or facilities for almost a third of each working/school day. These individuals (students and employees) generate waste as they perform their daily activities. Employees and students consume and utilize large amounts of raw materials and they generate large volumes of waste during each day.

MSCS as part of operational expenses spends considerable amounts of monies via a contractor (presently **Waste Management of TN**) to dispose of waste (school trash via dumpsters). Approximately each year, 385,000 cubic yards of garbage and refuse are generated throughout MSCS. This is handled by our contractor and transported for disposal to various landfills, etc.

MSCS also generates via various support and instructional-related operations various categories of RCRA hazardous wastes as follows:

Waste Locations	Waste Streams/Types
A. Maintenance Services • Facilities Maintenance & Pest Control (1364 Farmville Rd) • A/C & R equipment (Individual School Locations) • Spills/leaks in schools (Individual School Locations) • Band Instrument Repairs (Individual School Locations) • Lab Packs (Individual School Locations)	a. Waste paint solvents – Waste Stream 1 Paint spray area. b. Waste Petroleum Naphtha – Waste Stream 2 c. Used vehicle oil – Waste Stream 3 d. Waste Pesticides – Waste Stream 4 e. Freon – Waste Stream 5 f. Fluorescent Light Bulbs – Waste Stream 6
B. Careers and Technology Education at Secondary Schools as follows: 1. Craigmont Jr/Sr High 2. Kingsbury High/CTC 3. Raleigh Egypt High 4. Sheffield CTC 5. Trezevant CTC 6. Whitehaven High	a. Mixed miscellaneous wastes (MOMX) – Waste Stream 7 ***(Waste picked up from schools)***
C. Mallory Warehouse-Purchasing (1384 Farmville Rd.)	a. Refrigerated Truck Unit Oil – Waste Stream 8

Pesticide Storage and Waste Disposal

6. <u>Materials of Trade</u>

Per 49 CFR 173.6 the School District is allowed to store and transport without the need for placarding:

- < 440 lbs of hazardous materials (NOT hazardous waste)
- < 8 gallons of gasoline or fuel

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- Class 6.1 materials such as fluorescent light bulbs

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EHS Manager Date

Appendix:

THE PROBLEM AND THE CHALLENGE

In its broadest sense waste reduction includes all practices that reduce the amount of unwanted materials entering the environment, whether hazardous or not.

Methods of achieving waste reduction divide conveniently into two basic types:

- source reduction.
- recycling.

Source reduction is defined as any action that reduces the amount of waste exiting a process.

Source reduction includes:

- Equipment or technology modifications.
- Process or procedure modifications.
- Reformulation or redesign of products
- Substitution of raw materials; and
- Improvement in housekeeping, maintenance, training and inventory control.

Recycling is the use, reuse, or reclamation of a waste, either on-site or off-site, after it is generated. Recycling methods include:

- The effective use or reuse of a waste as a substitute for a commercial product
- Removing contaminants from a waste to allow its reuse; and,
- Reclaiming useful constituent fractions within a waste material.

Due to previous safety and environmentally related problems, specifically excessive levels of airborne lead in JROTC rifle ranges, MSCS had to obtain EPA Identification numbers for twenty (20) locations in order to implement the clean-up, removal and disposal of various lead contaminated sand and surfaces (walls, floors, etc.). There are currently 20 rifle ranges used by the MSCS schools. The required annual reporting to the Tennessee Department of Environmental Conservation (TDEC) of RCRA waste generation has prompted us to obtain four additional EPA ID numbers. We have been able through various management techniques and reporting to have all locations classified as "conditionally exempt" except for one location – 1364 Farmville Rd (Maintenance Warehouse). Until recently a secure and fenced area was designated as a collection/storage location for specified generated waste(s) from other school/facility locations. Careful and planned activities dealing with storage time intervals have preserved our status as an SQG. This status can continue to be preserved through prudent waste prevention management and concentrated efforts at waste reduction.

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The effort now is to convince administrative officials that through expansion and implementation of additional conservation and recycling efforts, MSCS will not only benefit financially, but instructionally as personnel and students will become more environmentally aware. These planning and implementation processes are expected to also lower costs and liabilities and benefit the public health, safety and environment of all schools and facilities.