



Environmental Management Consulting, Inc.

TECHNICAL EDUCATION FACILITY SAFETY AUDIT

PLATTEVILLE HIGH SCHOOL

FEBRUARY 3, 2009

PREPARED FOR:

**PLATTEVILLE SCHOOL DISTRICT
780 NORTH 2ND STREET
PLATTEVILLE, WI 53818**

PREPARED BY:

**ENVIRONMENTAL MANAGEMENT CONSULTING, INC.
W7748 COUNTY HIGHWAY V
LAKE MILLS, WI 53551-9643**

Securing Safer Futures...

W 7748 Cty Hwy V, Lake Mills, WI 53551 ◆ 920.648.6343 Fax: 920.648-4370 ◆ www.emc-wi.com

TABLE OF CONTENTS

SECTION I	INTRODUCTION
SECTION II	APPLICABLE REGULATIONS
SECTION III	SAFETY AUDIT
SECTION IV	TECHNICAL EDUCATION DEFICIENCIES

SECTION I
INTRODUCTION

INTRODUCTION

Environmental Management Consulting Inc. (EMC) conducted a Technical Education facility safety audit to assess potential safety violations which may be present in the Platteville School District. The Technical Education facility safety audit was completed by Jason G. Schneider on February 3, 2009.

This Technical Education facility safety audit was completed to identify potential safety violations prescribed by Occupational Safety and Health Administration (OSHA), as adopted by the Department of Commerce (DCOMM). The audit identified several potential violations which should be addressed and corrected.

This Technical Education facility safety audit is not intended to identify all the violations which may be present. EMC is not responsible for any potential violation which may not have been observed. The purpose of the audit is to present an idea of what a regulatory inspector (DCOMM) may look for in completing an inspection. This information will aid the School District in identifying areas which may need to be corrected to avoid a citation, and to identify items which may result in injuries to staff or students.

SECTION II
APPLICABLE REGULATIONS

APPLICABLE REGULATIONS

1) Department of Commerce (DCOMM)

The Department of Commerce (DCOMM) is responsible for enforcing all safety and health regulations for public employees in the State of Wisconsin. Most of the observed regulations are set forth by OSHA, and supplemented by other groups listed herein. DCOMM independently supplements the adopted OSHA regulations in many cases.

2) Occupational Safety and Health Administration (OSHA)

The Occupational Safety and Health Administration (OSHA) was developed in 1970 to protect the health and safety of the employees working in general industry. As stated above, all OSHA regulations in public buildings in Wisconsin are enforced by DCOMM.

3) National Fire Protection Association (NFPA)

The National Fire Protection Association (NFPA) develops recommendations that will protect a business from various fire hazards.

4) National Electrical Code (NEC)

The National Electrical Code (NEC) is the product and responsibility of the National Fire Protection Association (NFPA) and has been since 1911. The NEC reflects current knowledge and technologies pertaining to electrical safety.

5) American National Standards Institute (ANSI)

The American National Standards Institute (ANSI) is a private, non-profit organization that administers and coordinates the U.S. voluntary standardization and conformity assessment system.

SECTION III
SAFETY AUDIT

SAFETY AUDIT

A. Egress

Technical Education facilities are filled with large pieces of equipment and materials which may create added hazards during an emergency. It is especially important in these areas that safety equipment and policies that pertain to emergency evacuations are in place and working properly.

Emergency routes should be posted and reviewed with the individuals who occupy the area. Exit signs should be in place and working properly. Emergency exits

B. Electrical

Precautions should be taken to prevent injuries arise from the unsafe use of electrical equipment.

Extension cords and outlets must be in good condition and used properly. Circuit breaker boxes must be readily accessible and free from hazards. Circuits must be properly labeled to assure the necessary breaker is shut off during maintenance work. Lock-out/Tag-out procedures should be used while performing maintenance on electrically powered equipment.

C. Walking/Working Surfaces

Unsafe walking and working surfaces can pose hazards in any situation. These hazards are amplified when shop tools and industrial materials are introduced. Walkways, stairs, handrails and ladders should be constructed and maintained in a way that prevents slips, trips and falls.

D. Fire Protection

One of the most common emergencies in an unsafe Technical Education shop is fire. Prompt clean up of saw dust and proper storage of flammable and combustible materials are obvious ways to prevent fire. Spray booth maintenance is also very important.

If a fire were to occur, proper emergency equipment and in place procedures can prevent serious injuries and property damage. If the Technical Education shops have automatic suppression systems in place, these systems should be checked and maintained basis by a certified contractor. No storage shall be allowed within 18 inches of the sprinkler heads.

Fire Extinguishers

Fire extinguishers should be located in the Technical Education areas. The four types of extinguishers most commonly used are classified by the type of fire for which they are suitable.

1. Water extinguishers are effective against burning paper and trash (Class A fires). These should not be used for extinguishing electrical, liquid, or metal fires.
2. Carbon dioxide extinguishers are effective against burning liquids, such as hydrocarbons or paint, and electrical fires (Classes B and C fires). They are less effective against paper and trash or metal fires and should not be used against lithium aluminum hydride fires.
3. Dry powder extinguishers, which contain sodium bicarbonate, are effective against burning liquids and electrical fires (Classes B and C fires). They are less effective against paper and trash or metal fires. They are not recommended for fires involving delicate instruments or optical systems because of the cleanup problem this creates. These extinguishers are generally used where large quantities of solvent may be present.
4. Met-L-X® extinguishers and others that have special granular formulations are effective against burning metals (Class D fires). Included in this category are fires involving magnesium, lithium, sodium, and potassium; alloys of reactive metals; and metal hydrides, metal alkyls, and other organometallics. These extinguishers are less effective against paper and trash, liquid, or electrical fires.

Fire extinguishers must be inspected monthly and recharged annually. They should be mounted with their handle between 3 ½ and 5 feet from the ground. They should be mounted near exits and nothing should be stored in front of them that obstructs access to them during an emergency.

E. Cutting and Welding

Cutting and welding operations usually involve the use of compressed oxygen and acetylene. Cylinders of compressed gases can potentially be extremely hazardous. Fire and explosion can result from improper storage, maintenance or use. Several OSHA guidelines must be followed to prevent serious injury to people in the Technical Education shops and surrounding area.

F. Machines

Woodworking, metal fabricating, and auto repair machines are the basis of a technical education program. OSHA guidelines pertaining to machines and operator safety shall be observed.

The basics associated with machine safety are as follows:

- Guarded point of operation
- Guarded power transmission system
- Clearly marked central system
- Emergency stop system
- Power outage protection
- Firm base that will prevent its movement

G. Chemicals

A wide variety of chemicals may be in use as part of technical education process.. Chemicals must be stored in the proper containers (flammable cabinets, safety cans) and must be properly labeled. MSDS and chemical inventory sheets must be readily available.

H. General

Materials must be stored in a manner that does not create a hazard. Confined spaces must be labeled. Hand tools must be kept in good working condition.

I. Ventilation

Technical education areas should be on a dedicated air handler system to prevent the recirculation of hazardous materials to the rest of the building. Any spray painting activities require spray booths which draw 100 fpm of air across the face and have an independent exhaust system that discharges to the exterior of the building. Machines that produce wood dust must have local exhaust that is connected to a dust collector that is located outside the building or inside an NFPA approved room. Welding hoods must draw the exhaust away from the welding point of operation.

SECTION IV

TECHNICAL EDUCATION DEFICIENCIES

TECHNICAL EDUCATION DEFICIENCIES

BUILDING NAME: Platteville High School

ROOM: Production Shop

EGRESS

No emergency routes are posted, photograph 1

ELECTRICAL

No deficiencies

WALKING/WORKING SURFACES

No deficiencies

FIRE PROTECTION

No deficiencies

CUTTING/WELDING

No deficiencies

MACHINES

Some equipment is not fixed to the floor, photograph 2

CHEMICALS

No deficiencies

GENERAL

No safety shower is present, photograph 3

PHOTOGRAPHS

Platteville High School
Tech. Ed. Audit
February 3, 2009
Production Shop

Photograph 1: No emergency routes are posted.



Photograph 2: Some equipment is not fixed to the floor.



Platteville High School
Tech. Ed. Audit
February 3, 2009
Production Shop

Photograph 3: No safety shower is present.

