

Environmental Programs Information Affecting Kansas Public Schools

Prepared by
Kansas Department of Health & Environment
and
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ENVIRONMENTAL PROGRAMS

This publication had been prepared by the Kansas Department of Health and Environment, Kansas Department of Human Resources and printed by the Kansas Board of Education to provide unified school districts and other Local Education Agencies with summary information on environmental issues facing Kansas schools. At this time it is our hope this publication will allow unified school districts to be better informed on current environmental issues. If additional information is needed, the contact persons and telephone numbers are contained in each section.

The Information contained in this publication is the latest information available as of January, 2004. The information in this publication is subject to change. Therefore, it may be necessary to contact the persons listed in the publication for additional information.

ENVIRONMENTAL PROGRAMS

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January, 2004

Title VI of the 1990 Clean Air Act Amendments, Stratospheric Ozone and Global Climate Protection, requires the U.S. Environmental Protection Agency (EPA) to issue regulations that reduce releases of ozone-depleting chemicals during the service, maintenance, repair, or disposal of appliances.

EPA published a list of two classes of ozone-depleting substances. Class I substances are the most potent ozone-depleting substances, such as chlorofluorocarbons (CFCs) CFC-11, -12, -13, -113, and others; halons; and carbon tetrachloride. These are being phased out on a predetermined schedule. Class II substances do cause ozone depletion, but at a substantially reduced rate. These Hydrochlorofluorocarbons (HCFCs), such as HCFC-22, will be phased out at a later date.

The regulations will require the following;

1. Recycling/recovery of Class I and Class II substances.
2. Recycling/recovery equipment must be certified.
3. Operators involved in recycling/recovery (other than disposal) must be certified.

Deadlines have been established when specific requirements are to be implemented. Presently, the EPA is responsible for the implementation of this program. If you have specific questions or need further information regarding the program, you are to contact the following individual at EPA:

Alice Law (913) 551-7623
Air, RCRA and Toxics Division
U.S. Environmental Protection Agency
901 North 5th Street
Kansas City, Kansas 66101

AIR - INCINERATORS

January, 2004

The Kansas air pollution control regulations contain requirements regarding the installation, alteration, and operation of incinerators in the state. The incinerator regulations can be found in K.A.R. 28-19-300 Construction permits and approvals and K.A.R. 28-19-40 Incinerators.

K.A.R. 28-19-300 states that the installation of any new or altered incinerator must be reported to the Kansas Department of Health and Environment prior to the commencement of the construction or alteration of the unit. K.A.R. 28-19-40 establishes operating standards which incinerators must meet to comply with the regulations.

If you have questions regarding the incinerator regulations, you may contact the Air Quality staff located in the Department's district offices in Lawrence, Salina, Hays, Chanute, Wichita, and Dodge City. See the Environmental Program section for a listing of district offices.

In the counties of Johnson, Sedgwick, Shawnee, and Wyandotte, the local health and environmental agencies have been delegated authority to implement the air pollution regulations. A listing of the agency and point of contact is shown below:

Ed Kalas
Shawnee County Health Agency
1515 NW Saline
Topeka, Kansas 66618
(785) 291-2456
ed.kalas@co.shawnee.ks.us

Mike Boothe
Johnson County Environmental Dept.
11180 Thompson Avenue
Lenexa, Kansas 6219
(913) 492-0402
michael.boothe@jocogov.org

John Stark
Wichita-Sedgwick County Department of Community Health
1900 East 9th Street
Wichita, Kansas 67214
(316) 268-8449
jstark@wichita.gov

Bruce Anderson
Unified Government of Wyandotte County
and Kansas City, Kansas Health Department
619 Ann Avenue
Kansas City, Kansas 66101
(913) 573-6700
bandersen@wycokck.org

AIR - OPEN BURNING

January, 2004

The Kansas air pollution control regulations contain requirements pertaining to the open burning of materials within the state. K.A.R. 28-19-645 specifically prohibits all types of open burning in the state. However, the regulation provides for exclusions to the overall ban of burning under controlled and specific conditions.

If you have questions regarding the open burning regulations, you may contact the Air Quality staff located in the Department's district offices in Lawrence, Salina, Hays, Chanute, Wichita, and Dodge City. See the Environmental Program section for a listing of district offices.

In the counties of Johnson, Sedgwick, Shawnee, and Wyandotte, the local health and environmental agencies have been delegated authority to implement the air pollution regulations. A listing of the agency and point of contact is shown below:

Mike Boothe
Johnson County Environmental Department
11180 Thompson Avenue
Lenexa, Kansas 66219
(913) 492-0402
michael.boothe@jocogov.org

Ed Kalas
Shawnee County Health Agency
1515 NW Saline
Topeka, Kansas 66618
(785) 291-2456
ed.kalas@co.shawnee.ks.us

John Stark
Wichita-Sedgwick County Department of Community Health
1900 East 9th Street
Wichita, Kansas 67214
(316) 268-8449
jstark@wichita.gov

Bruce Andersen
Unified Government of Wyandotte County and
Kansas City, Kansas Health Department
619 Ann Avenue
Kansas City, Kansas 66101
(913) 573-6700
bandersen@wycokck.org

ASBESTOS PROGRAMS

January, 2004

In the State of Kansas, asbestos-containing material (ACM) is regulated by both the state and the federal government. The state program, under the jurisdiction of the Kansas Department of Health and Environment (KDHE), regulates the removal and encapsulation of friable ACM. At the federal level, the U. S. Environmental Protection Agency (EPA) and the Occupational Safety and Health Administration (OSHA) are responsible for regulating environmental exposure and protecting workers from asbestos exposure.

EPA regulates asbestos under the Asbestos Hazard Emergency Response Act (AHERA), National Emission Standard for Hazardous Air Pollutants (NESHAP), and the Worker Protection Rule. AHERA requires schools to control and manage asbestos-containing materials in their educational buildings. The asbestos NESHAP is intended to minimize the release of asbestos fibers during activities involving the handling of asbestos. The Kansas Department of Health and Environment has been delegated the authority to implement and enforce the NESHAP regulation in the state of Kansas. The Worker Protection Rule extends the OSHA standard to public employees who perform asbestos work and who are not covered by the OSHA Asbestos Standards.

In the following pages, a brief discussion of the various regulations will be provided. This information is directed towards educational and public facilities.

If you have any questions or desire further information regarding the various regulations, you may contact the following agencies:

Scott Bangert - Asbestos Control Section
Kansas Department of Health and Environment
1000 SW Jackson, Suite 310
Topeka, Kansas 66612-1366
(785) 296-1550

Larry Hacker
Regional Asbestos Coordinator (AHERA, NESHAP and Worker Protection Rule))
U.S. Environmental Protection Agency
901 North 5th Street
Kansas City, Kansas 66101
(913) 551-7020

OSHA
271 West 3rd Street North
Room 400
Wichita, Kansas 67202
(316) 269-6644

ASBESTOS - AHERA

January, 2004

In 1986, the Asbestos Hazard Emergency Response Act (AHERA); Asbestos Containing Materials in Schools, 40CFR Part 763, Subpart E, was signed into law as Title II of the Toxic Substances Control Act (TSCA). AHERA required EPA to develop regulations creating a comprehensive framework for addressing asbestos hazards in schools. The Act required EPA to construct a model accreditation program for individuals who conduct inspections for asbestos, develop management plans, and perform abatement work.

Other provisions of AHERA require all public and private elementary and secondary schools (K-12) to conduct inspections for asbestos-containing building materials, develop management plans, and implement response actions in a timely fashion. Specifically, each local education agency (LEA) must do the following:

- Designate and train a person to oversee asbestos-related activities in the LEA (designated Person).
- Inspect every school building for both friable and non-friable asbestos-containing building materials. Any building leased or acquired on or after October 12, 1988 that is to be used as a school building shall be inspected prior to use as a school building.
- Prepare a management plan for managing asbestos and controlling exposure in each school and submit that plan to the KDHE. The plan should include a time frame for implementation of recommended actions. If the LEA begins to use a building as a school after October 12, 1988, the LEA shall submit the management plan for the school to the Department prior to its use as a school.
- Use only properly accredited persons to conduct inspections and develop the asbestos management plan. Accredited personnel must also conduct the required triennial reinspections.
- Provide custodial staff and short-term workers with information about the location of any asbestos-containing materials. Post warning labels as required.
- Provide custodial and maintenance staff with two hours of awareness training and an additional 14 hours of training for employees whose duties may cause them to disturb asbestos.
- Annual notification of parents, teachers and other school employees about the asbestos inspection and the availability of the asbestos management plan for review.

ASBESTOS - AHERA

- Utilize properly accredited individuals to design and conduct asbestos abatement response actions that are necessary to protect health and the environment. These actions or methods must be documented in the management plan.
- Keep records of all asbestos-related activities in the plan and make them available for public review.
- Inform employees and building occupants (parents or legal guardians) annually regarding the management plan availability and related ongoing activities pertaining to implementation.
- LEAs are required to update and maintain management plans to reflect activities with ongoing operations and maintenance, periodic surveillance, inspection, reinspection, training, and response action activities.
- Building(s) acquired after October 12, 1988, must be inspected prior to use as a school building. For new buildings constructed or school rooms added, the architect can provide a letter to the LEA stating that no asbestos-containing materials were used in the construction of the building or annex. A copy of management plan for the newly acquired building and a copy of the architect's letter is to be sent to KDHE.
- A minor fiber release episode is defined as an event where three square or lineal feet or less of friable ACM is dislodged or is falling. The O & M work practices can be used for the clean-up or removal of ACM.
- A major fiber release episode is defined as an event where more than three square or lineal feet of friable ACM is dislodged or is falling. Any clean-up or removal of this amount of ACM is subject to the response action requirements contained in the regulation.
- Warning labels shall be prominently displayed adjacent to any friable and non-friable ACM and suspected ACM assumed to be ACM located in routine maintenance areas. The label shall read, in print which is readily visible because of large size or bright color, as follows: CAUTION: ASBESTOS. HAZARDOUS. DO NOT DISTURB WITHOUT PROPER TRAINING AND EQUIPMENT.

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The federal Clean Air Act (CAA) of 1970 required the EPA to develop and enforce regulations to protect the general public from exposure to airborne contaminants that are known to be hazardous to human health. In accordance with Section 112 of the CAA, EPA established National Emission Standards for Hazardous Air Pollutants (NESHAP). Asbestos was one of the first hazardous air pollutants regulated under the Section 112. In 1971, EPA first identified asbestos as a hazardous air pollutant, and in April, 1973, EPA promulgated the asbestos NESHAP in 40 CFR Part 61, Subpart M. The Asbestos NESHAP has been amended several times, most recently in November, 1990.

The Asbestos NESHAP is intended to minimize the release of asbestos fibers during the activities involving the handling of asbestos. Accordingly, the November, 1990 revisions establish regulations pertaining to the renovation and demolition of a facility and the manufacturing of items which contain asbestos fibers.

To fully understanding the terminology of NESHAP, you must be familiar with definitions contained in the standard. Below is a listing of the significant definitions contained in the standard:

Friable asbestos material means any material containing more than one percent asbestos that, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure.

Category I non-friable asbestos-containing material (ACM) means asbestos-containing packing, gaskets, resilient floor covering, and asphalt roofing products containing more than one percent asbestos.

Category II non-friable ACM means any material, excluding Category I non-friable ACM, containing more than one percent asbestos that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

Demolition means the wrecking or taking out of any load-supporting structural member of a facility together with any related handling operations or the intentional burning of any facility. Facility means any institutional, commercial, public, industrial, or residential structure, installation or building (including any structure, installation, or building containing condominiums or individual dwelling units operated as a residential cooperative, but excluding residential buildings having four or fewer dwelling units); any ship; and any active or inactive waste disposal site.

Owner or operator of a demolition or renovation activity means any person who owns, leases, operates, controls, or supervises the facility being demolished or renovated or any person who owns, leases, operates, controls, or supervises the demolition or renovation operation, or both.

Regulated asbestos-containing material (RACM) means (a) Friable asbestos material, (b) Category I non-friable ACM that has become friable, (c) Category I non-friable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading, or (d) Category II non-friable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations.

Renovation means altering a facility's components in a way, including the stripping or removal of RACM from a facility component. Operations in which load-supporting structural members are wrecked or taken out are demolitions.

We have provided a partial listing of the definitions. Other definitions are contained in the standard which also impact renovation/demolition activities. The definitions can be found in Section 61.141 of the standard.

The regulation or standard for demolition and renovation activities can be found in Section 61.145. By definition, the owner or operator must do the following:

- Prior to the commencement of the demolition or renovation activity, a thorough inspection of the entire facility or that portion of the facility where the demolition or renovation will occur shall be made for the presence of friable and non-friable asbestos-containing material.
- All regulated asbestos-containing materials (RACM) must be removed from a facility being demolished or renovated before any activities are carried out that would break up, dislodge, or similarly disturb the materials or preclude access to the materials for subsequent removal. The regulation does provide for exceptions to this requirement. To obtain information regarding these exceptions, you may contact KDHE or EPA.
- An integral part of the regulation pertains to specific notification requirements for demolition or renovation. All required notifications must be submitted at least 10 working days before asbestos removal work is to commence or at least 10 working days before commencing demolition of a facility. A description of the notification requirements are as follows:

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- a) Demolition projects (asbestos material in facility): If a form of asbestos is in the building, a notification is to be submitted by the required deadline.
- b) Demolition projects (no asbestos material in facility): If there is no RACM in the facility, a notification must be submitted at least 10 working days before beginning to demolish the facility.
- c) Renovations: If the amount of RACM that will be stripped, removed, dislodged, cut, drilled, or otherwise disturbed in a facility being renovated is at least 260 lineal feet on pipes, 160 square feet on other facility components, or at least 35 cubic feet of material stripped from pipes or other components, a notification is to be submitted by the required deadline.
- d) Renovations: If the amount of RACM that will be stripped, removed, or otherwise disturbed is less than 260 lineal or 160 square feet, or 35 cubic feet, a notification is not required to be submitted. **(Note: State asbestos control regulations would require a notification be submitted. See the Asbestos-KDHE section for further details).**
 - When removing asbestos materials, the exposed surfaces shall be adequately wetted with a wetting agent.
 - RACM that has been removed shall be wetted and placed in leak-tight containers for disposal.
 - All RACM, including Category I and Category II non-friable materials, must be removed from a facility that is to be destroyed by burning.
 - A person who possesses a valid AHERA Contractor/Supervisor Accreditation must be on-site during any regulated demolition or renovation activity.
 - The asbestos waste shall be placed in leak-tight containers that have warning and identification labels on their exteriors.
 - The vehicle or container used to transport the asbestos waste will be placarded with visible signs during the loading and unloading of the waste.

ASBESTOS - NESHAPS

- For all asbestos-containing materials transported off site, the owner or operator shall complete a Waste Shipment Record Form that shall accompany the asbestos waste to the landfill. Any person who handles or transports the waste must complete that portion of the form that pertains to his activity. A copy of the shipment record must be retained for at least two years.

An attempt has been made to briefly explain important items contained in the NESHAP regulation. The above items stress the main elements of the regulation that persons should be aware of when beginning any demolition or renovation activity. For informational purposes, the NESHAP regulation should be obtained and reviewed for further clarification.

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In 1985, the Kansas Legislature enacted the asbestos control law (K.S.A. 65-5301 et.seq.) which required the Department to implement the state's licensing and certification program for firms and people who engage in asbestos removal or encapsulation work. Under this law, business entities who engage in asbestos removal and encapsulation projects must be licensed, and workers who engage in these activities must be certified by meeting special training and medical requirements. Public agencies who remove asbestos-containing materials must also comply with these requirements, but they are exempt from the license and notification fees.

The regulations (K.A.R. 28-50-1 et.seq.) which implement the law became effective in January, 1986. The regulations have been revised on several occasions with the latest revisions dated October 1, 1999. A discussion of the regulations are as follows:

- Definitions provide separate categories for asbestos removal, encapsulation, maintenance, demolition, and dismantling operations. By definition, if more than twenty-five lineal or ten square feet of friable asbestos-containing material is removed, the removal is subject to the regulations and the business entity must possess a license from the Kansas Department of Health and Environment.
- Licensure requirements provide the business entity to own certain basic equipment items, medical examinations for employees, evidence that they will comply with state and federal regulations, and pay annual license fees.
- Establishes procedures for public agencies and public schools to comply with the licensing requirements but exempts agency from licensing and notification fees.
- Provides that business entities who use their employees to remove or encapsulate asbestos projects, as part of renovation, maintenance, or repair operations on their own facilities must only comply with the notification requirements.
- Asbestos workers who engage in the removal or encapsulation of asbestos materials are required to be certified by the Department. The Department has adopted the training requirements contained in the AHERA school law. Workers (Class I) and supervisors (Class II) are required to attend applicable training. To become certified, a person must complete an application form and provide a copy of a certificate from a training provider. This information must be submitted along with a processing fee of \$20.00 for Class I and \$40.00 for Class II.
- The regulation includes the procedures for a training provider to obtain approval of the asbestos worker and supervisor courses.

ASBESTOS - KDHE

- A project notification is to be submitted to the Department not less than 10 working days prior to commencing the project. Under certain situations, the 10 day requirement can be waived. The regulation also establishes project evaluation fees that must accompany the notifications.
- Individual work practice procedures for the removal and encapsulation of friable asbestos materials are established to protect workers and occupants of buildings where asbestos work is to be done. The regulations require enclosures with air ventilation systems, pass through worker decontamination facilities, removal by wet methods, and cleaning and sealing requirements.
- For demolition projects, there is a general requirement that all types of asbestos-containing materials that are involved in demolition operations must be handled in a manner that will prevent asbestos fibers from becoming airborne.
- The regulation establishes basic work practice standards for the collection, storage, and transport of solid waste containing friable asbestos. Waste must be placed in clear plastic containers and the exterior of each container must possess an asbestos warning label and identifying information. Departmental approval of friable waste material is required for final disposal.

ASBESTOS - OSHA

January, 2004

The Occupational Safety and Health Administration (OSHA) General Industry Standard (29 CFR 1910.1001) and the Construction Standard (29 CFR 1926.1101) regulate occupational exposure to asbestos. The last major revisions to the standards were on August 10, 1994. As stated in the rule, these standards apply to only private sector employees (public employees are subject the EPA worker protection rule). **However, these OSHA standards were adopted by reference into the EPA worker protection rule amendments of November 15, 2000.** A discussion of the standards is as follows:

- Both Standards set an occupational Permissible Exposure Limit (PEL) to asbestos fibers. The current standard is set at 0.1 fibers/cubic centimeter (f/cc) of air, based on an eight-hour time-weight average (TWA) exposure monitoring. This is the highest concentration of asbestos fibers in-the-air that is allowed in an employee's breathing zone, based on exposure monitoring. The use of employee rotation as a means of compliance with the PEL is prohibited in both Standards.
- Both Standards use a classification system dividing asbestos related work activities into the following classes:

Class I - Activities involving the removal of asbestos-containing thermal system insulation (TSI) or surfacing ACM/PACM.

Class II - Activities involving removal of ACM which neither TSI or surfacing ACM. This includes, but is not limited to, the removal of asbestos-containing wallboard, floor tile and sheeting.

Class III - Repair and maintenance operations, where ACM including TSI and surfacing ACM and PACM may be disturbed.

Class IV - Maintenance and custodial activities during which employees contact ACM or PACM and activities to clean up minimal amounts of waste and debris containing ACM or PACM.

- The General Industry Standard requires all employees who work in areas where ACM or PACM is present be given a prescribed level of awareness training. All individuals who may remove, disturb or clean up ACM or PACM must be initially trained and attend annual refreshers. Occupations covered by OSHA for the exposure to asbestos not covered by the Construction Standard. This includes primary and secondary manufacturing of products containing asbestos, ship repair and rebuilding, and automotive brake and clutch repair.

ASBESTOS - OSHA

- The Industry Standard also covers exposure to office employees in buildings where asbestos products have been installed, and employees working near asbestos abatement and renovation (requires monitoring only).
- The Industry Standard requires an employer to institute engineering and work practice controls to reduce employee exposures to or below the PEL of 0.1 f/cc. Whenever these controls do not reduce exposures to the PEL, they must still be used to reduce exposures to the lowest feasible level and then supplement by respirators.
- This Standard defines and/or requires (based on exposure) regulated work areas, personal protective equipment, respirator usage, air monitoring, medical surveillance, record keeping, and methods of compliance (work practices).
- Due to the substantially different exposures and work conditions in the construction trades, OSHA's Construction Standard covers all construction work, including renovation, demolition, salvage, removal or clean up of ACM, transportation of ACM or waste, and includes ACM waste storage or disposal. This Standard has increasing, and more stringent, requirements as the potential exposure level to asbestos fibers increases due to different work activities. Some of these work activities regulated are the removal or disturbance of ACM such as TSI or surface materials, ceilings, walls, and structural members, ceiling and floor tiles, roofing materials, asbestos cement products such as siding, shingles, and pipe. The standard defines and require specific training for all workers who perform Class I, II, III, and IV work. The Construction Standard addresses removal, demolition, renovation, repair, and maintenance activities; temporary work enclosures, use of special work practices such as glove bag removals and HEPA filtered equipped vacuum devices and tools, hazard communication among employers on-site, and the use of a competent person who has the authority, training and understanding of the regulations to carry out the provisions of the standard.

ASBESTOS - WORKER PROTECTION RULE

January, 2004

The EPA Worker Protection Rule (40 CFR Part 763) is to provide protection to employees (not covered by OSHA) consistent with the protection provided to private employees by the OSHA General Industry and Construction Standards during asbestos abatement operations. These employees include state and local government employees, and maintenance and custodial employees of public schools and universities.

This rule is applicable in Kansas. However, it is not applicable in states which have an OSHA-approved State Plan or other state plans which cover OSHA exempt employees.

On November 15, 2000, the EPA published a final amendment to the rule in the Federal Register. The EPA adopted the OSHA General Industry Standard 29 CFR 1910.1000 and the Construction Standard 29 CFR 1926.1101. With this amendment to the rule, those facilities subject to the Worker Protection Rule must comply with the OSHA regulations.

DISTRICT OFFICES - ENVIRONMENTAL PROGRAM

January, 2004

The Kansas Department of Health and Environment (KDHE) has six district offices located across the state. These offices serve as the agency's field arm, each staffed with environmental professionals who work to insure quality environment.

Schools with environmental questions or concerns regarding such topics as hazardous waste; solid waste; petroleum storage tanks; spills; drinking water; nonpoint source pollution; and air (open burning, incinerators, and CFCs) should contact the KDHE district office nearest them. All questions regarding asbestos should be directed to the Asbestos Program at the Topeka Office at 785-296-1550, as the District Offices do not handle inquiries regarding asbestos.

For further information or clarification, contact:

Theresa Hodges, Director (785) 296-6603
Kansas Department of Health and Environment www.kdhe.state.ks.us/befs
Bureau of District Offices
Curtis State Office Building, Suite 430
Topeka, KS 66612-1367

KDHE District Offices

Northwest District Office
2301 E. 13th Street
Hays, Kansas 67601-2651
(785) 625-5663
NWDO@kdhe.state.ks.us

Northeast District Office
808 W. 24th Street
Lawrence, Kansas 66046-4417
(785) 842-4600
NECO@kdhe.state.ks.us

North Central District Office
2501 Market Place, Suite D
Salina, Kansas 67401
(785) 827-9639
NCDO@kdhe.state.ks.us

Southwest District Office
302 W. McArtor Road
Dodge City, Kansas 67801
(316) 225-0596
SWDO@kdhe.state.ks.us

South Central District Office
130 So. Market, Suite 6050
Wichita, Kansas 67202-3802
(316) 337-6022
SCDO@kdhe.state.ks.us

Southeast District Office
1500 W. 7th / PO Box 888
Chanute, Kansas 66720-9701
(316) 431-2390
SEDO@kdhe.state.ks.us

DRINKING WATER PROGRAMS

January, 2004

Lead in Drinking Water

Kansas educational facilities seeking information on lead contamination in drinking water supplies can obtain guidance from the Kansas Department of Health and Environment (KDHE). The Lead Contamination Control Act of 1988 (LCCA) called for the elimination of lead from school and child care drinking water supplies.

Lead gets into drinking water two ways: by being present at the source or through corrosion of lead parts in a distribution or plumbing system. Much of today's concerns about lead in school drinking water involves water fountains. KDHE has available a list of water cooler models containing lead parts. Department staff in Topeka and the District Offices are also available to answer questions, give technical assistance, and provide guidance on how schools can comply with the LCCA.

Public Water Supply Systems

Federal and state laws define a public water supply as any system serving 25 or more individuals 60 or more days per year. Public water systems are required to meet certain criteria concerning construction, quality, and monitoring. If a school has its own source of drinking water and has 25 or more students, faculty, and staff, it must obtain a permit from KDHE. Those schools purchasing water from a city or rural water district are not considered public water supplies, unless they treat the water after purchase.

For further information or clarification, contact:

Dave Waldo
KDHE
1000 SW Jackson, Suite 420
Topeka, KS 66612-1367
(785) 296-5503

District Offices:
Salina (785) 827-9638
Lawrence (785) 842-4600
Hays (785) 625-5663
Wichita (316) 337-6022
Chanute (620) 431-2390
Dodge City (620) 225-0596

HAZARDOUS WASTE

January, 2004

The first step in determining whether a school generates hazardous wastes is to evaluate each waste generated. Developing an inventory of all wastes generated at a facility is an important part of this process. In some cases product material safety data sheets (MSDS) can provide useful information. For some wastes, laboratory analyses must be conducted on a representative sample of the waste. These analyses must be conducted by a laboratory certified by KDHE.

Hazardous Wastes

Wastes are considered hazardous if they are:

Listed Waste

The U.S. Environmental Protection Agency has developed several lists of hazardous wastes. KDHE has adopted these lists as a part of the Kansas hazardous waste regulations.

The P and U lists contain discarded commercial chemical products, off-specification chemicals, container residues and residues from the spillage of materials. These two lists include commercially pure grades of the chemical, any technical grades of the chemical that are produced or marketed, and all formulations in which the chemical is the sole active ingredient.

Wastes are also considered hazardous if they exhibit any of the following characteristics:

Ignitability (EPA Waste Identification Number D001)

A waste is an ignitable hazardous waste if it has a flash point of less than 60 degrees Centigrade (140 degree Fahrenheit); readily causes fires and burns so vigorously as to create a hazard; or is an ignitable compressed gas or an oxidizer as defined by the U.S. Department of Transportation (DOT) regulations.

Corrosivity (EPA Waste Identification Number D002)

A liquid waste which has a pH of less than or equal to 2 or greater than or equal to 12.5 is considered to be a corrosive hazardous waste.

Reactivity (EPA Waste Identification Number D003)

A material is considered to be a reactive hazardous waste if it is normally unstable, reacts violently with water, generates toxic gases when exposed to water or corrosive materials, or if it is capable of detonation or explosion when exposed to heat or a flame.

HAZARDOUS WASTE

Toxicity (Various EPA Waste Identification Numbers)

To determine if a waste is a toxic hazardous waste, a representative sample of the materials must be subjected to a test conducted by a certified laboratory. A Toxicity Characteristic Leaching Procedure (TCLP) analysis determines the concentration of heavy metals, pesticides, or any of a list of some 40 toxic compounds.

Other Wastes

Lead-Acid Batteries

Used lead-acid batteries are regulated as hazardous wastes only if they are NOT recycled.

Household Hazardous Waste

Household hazardous wastes (HHW) represent a wide variety of wastes which are produced as a result of normal household activities. Among the most common of these wastes are:

- pesticides
- paints and varnishes
- used oil
- antifreeze and other automobile fluids
- household cleaners, polishes and waxes
- wood preservatives
- photo and hobby chemicals
- swimming pool chemicals
- batteries

Used Oil

Used oil that is recycled for energy or material recovery is not subject to the hazardous waste regulations. Used oil can be burned in oil fired space heaters provided that:

- The heater burns only used oil that the owner or operator generates or used oil received from do-it-yourself oil changers who generate used oil as household waste;
- The heater is designed to have a maximum capacity of not more than 0.5 million BTU per hour; and
- The combustion gases from the heater are vented to the outside air.

HAZARDOUS WASTE

If you burn used oil in an industrial boiler or furnace or sell your oil to someone who is burning it you are required to notify KDHE. KDHE does not need to be informed if used oil is being burned in a space heater.

Used oil that is mixed with hazardous waste must be managed as hazardous waste unless the mixture is from a small quantity generator.

Polychlorinated Biphenyls (PCBs)

Polychlorinated Biphenyls (PCBs) are not recognized in Kansas as a hazardous waste and are not subject to hazardous waste regulations. The use, storage and disposal of PCBs is regulated under the federal Toxic Substances Control Act (TSCA).

Universal Waste

Certain widely handled wastes (batteries, pesticides, mercury-containing thermostats, and lamps which contain mercury) may be managed as universal wastes.

Small Quantity Generator

A small quantity generator is a person who meets all of the following conditions:

- Generates in any single calendar month less than 55 pounds of hazardous waste;
- Accumulates at any time less than 2,200 pounds of hazardous waste;
- Generates in any single calendar month less than 2.2 pounds of acutely hazardous (P-listed) waste;
- Accumulates at any time less than 2.2 pounds of acutely hazardous (P-listed) waste;
- Generates in any single calendar month less than 55 pounds of any residue or contaminated soil, waste, or other debris resulting from the cleanup of a spill of acutely hazardous waste; and
- Accumulates at any time less than 55 pounds of any residue or contaminated soil, waste, or other debris resulting from the cleanup of a spill of acutely hazardous waste.

HAZARDOUS WASTE

Requirements for Small Quantity Generators

Small quantity generators are required to manage their hazardous wastes in an environmentally-sound fashion. They are not subject to any notification or reporting requirements.

Disposal Alternatives

Small quantity generators may use any of the following alternatives to handle their hazardous wastes when disposed in quantities less than 55 pounds.

- Recycling
- Reuse
- Reclamation
- Disposal at a permitted sanitary landfill
- Neutralization and discharge to the sanitary sewer with permission of the city
- Disposal at a permitted hazardous waste disposal facility

Kansas Generator

A Kansas generator is any person who meets all of the following conditions:

- Generates in any single calendar month 55 pounds or more and less than 2,200 pounds of hazardous waste;
- Accumulates at any time less than 2,200 pounds of hazardous waste;
- Generates in any single calendar month less than 2.2 pounds of acutely hazardous (P-listed) waste;
- Accumulates at any time less than 2.2 pounds of acutely hazardous (P-listed) waste;
- Generates in any single calendar month less than 55 pounds of any residue or contaminated soil, waste, or other debris resulting from the cleanup of a spill of acutely hazardous waste; and
- Accumulates at any time less than 55 pounds of any residue or contaminated soil, waste, or other debris resulting from the cleanup of a spill of acutely hazardous waste.

HAZARDOUS WASTE

Requirements for Kansas Generators

- Determine which wastes generated by the school are hazardous. All hazardous wastes must be managed by treatment on site; or by transportation to a commercial treatment, storage, or disposal facility; or to a facility designated for recycling.
- Obtain an EPA identification number from KDHE.
- Prepare a manifest for all shipments of hazardous waste.
- Package, label, mark, and placard all shipments of hazardous waste in accordance with the pre-transportation requirements found in state regulations. All containers must be marked with the words “Hazardous Waste.”
- Prepare manifests, manifests exception reports, hazardous waste analyses, and weekly inspection reports and maintains copies of them for three years.
- Meet the storage requirements contained in the Kansas regulations.
- Designate an emergency coordinator. Posting Emergency Information next to at least one phone ensures employees are familiar with waste handling and emergency procedures.

EPA Generator

An EPA generator is a person who meets any of the following conditions:

- Generates in any single calendar month 2,200 pounds or more of hazardous waste;
- Accumulates at any time 2,200 pounds or more of hazardous waste;
- Generates in any single calendar month 2.2 pounds or more of acutely hazardous (P-listed) waste;
- Accumulates at any time 2.2 pounds or more of acutely hazardous (P-listed) waste;
- Generates in any single calendar month 55 pounds or more of any residue or contaminated soil, waste, or other debris resulting from the cleanup of a spill of any acutely hazardous waste; or

HAZARDOUS WASTE

- Accumulates at any time 55 pounds or more of any residue or contaminated soil, waste, or other debris resulting from the cleanup of a spill of acutely hazardous waste.

Requirements For EPA Generators

- EPA generators are subject to all the regulations for Kansas Generators, as well as the following additional requirements.
- Prepare and submit annual and biennial reports.
- An EPA generator may accumulate hazardous waste on-site for 90 days or less without a permit provided the waste is stored properly.
- Provide a personnel training program.
- Adequately provide for preparedness and prevention (maintenance, alarm systems, control equipment, etc.).
- Prepare a contingency plan and implement emergency procedures to ensure that releases of hazardous waste are properly handled.

Activities Which May Generate Hazardous Waste

<u>Activity</u>	<u>Waste</u>
Chemistry and Biology Laboratories	Old Products, Lab Reaction Waste
Shop Classes	Paints, Solvents, Resins
Building and Grounds Maintenance Boiler Compounds, Floor Stripper	Solvents, Paints, Adhesives, Pesticides,
Vehicle Maintenance	Oil, Antifreeze, Batteries

HAZARDOUS WASTE

What Hazardous Waste Management Options Are Available to a Generator?

- Inventory management. Buy what you need and use what you buy.
- Use any potential waste for its original purpose.
- Share unwanted material with other schools or businesses which can use it.
- Recycle spent materials
- Treat on site (e.g. acid neutralization).
- Dispose of with a hazardous waste contractor.

What Information/Management Services Are Available?

ShareNET is a database which provides information on management of chemicals in schools. This service is provided at a cost of \$0.50 per student in the district. Chemical Health & Environmental Management in Schools (CHEMIS), a program which is included in ShareNET, allows participating schools to dispose of unwanted chemicals once per year.

Solid Waste Disposal

Wastes which are not hazardous waste are solid waste and must also be handled appropriately. An additional class of waste is “special wastes.” Special wastes are solid wastes that, due to physical, chemical, or biological characteristics, require special handling at the landfill and a written authorization for disposal at a permitted municipal solid waste landfill. For information concerning special waste contact Mr. Richard Bronaugh (785) 296-1120 of the Bureau of Waste Management at KDHE.

For further information or clarification contact:

KDHE - Bureau of Waste Management

1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366
John Mitchell (785) 296-1608
Mark Duncan (785) 296-1604

For an EPA identification Number
(785) 296-6898

District Offices:

Salina (785) 827-9639
Lawrence (785) 842-4600
Hays (785) 625-5663
Wichita (316) 337-6040
Chanute (620) 431-2390
Dodge City (620) 225-0596

KDHE Web Page Address www.kdhe.state.ks.us/waste

Also available from the Bureau of Waste Management: *Hazardous Waste Generator Handbook*

NONPOINT SOURCE POLLUTION CONTROL PROGRAMS

January, 2004

In the State of Kansas, the Kansas Department of Health and Environment (KDHE) is the lead state agency for nonpoint source (NPS) pollution control. The main thrust of the Nonpoint Source Pollution Control Program is to minimize water quality impacts from pollutants carried by runoff from rain and snow melt, changes in stream channels and land cover, wastewater treated by septic tanks, spills and leaks from materials handling and storage, equipment maintenance, and construction activities.

What does this mean to schools?

Runoff from school property can carry pollutants from parking lots. Runoff from parking lots discharged to erosive channels may accelerate erosion in the downstream channel. Bus and other equipment maintenance activities can produce used oils, and fuel and chemical spills. Landscape maintenance can result in discharge of pesticides and nitrogen. Construction activities expose soils to erosion, may have fuel and chemical spills, and solid waste materials. Some schools may have septic tanks for wastewater treatment.

To manage these pollutant sources, schools should develop and maintain a School Water Pollution Control - Water Quality Protection Plan. This plan is a document which:

- 1) Identifies all of the school's property management activities which can result in the discharge of pollutants to waters of the state.
- 2) Identifies measures or activities which the school will take to prevent or minimize water pollutant discharges from school properties.

For further information or clarification, contact:

Jaime Gaggero
Kansas Department of Health and Environment
Bureau of Water - Watershed Management Section
1000 SW Jackson
Topeka, KS 66612
(785) 296-5579
Jgaggero@kdhe.state.ks.us

PETROLEUM STORAGE TANKS

January, 2004

The Kansas Department of Health and Environment (KDHE) has ongoing programs for the registration and regulation of petroleum storage tanks. In 1988, the U.S. Environmental Protection Agency promulgated federal regulations for underground storage tanks which required a number of changes in the state statutes and regulations.

The Kansas regulations which became effective in 1990 implement the federal regulations. In addition, the Kansas legislature, in 1992, adopted a statute governing aboveground tanks used for storage of petroleum products. Since the federal regulations currently apply only to underground tanks, there remain some differences in the regulation of aboveground and underground tanks.

Any tank used for the storage of petroleum products poses a potential risk of failure. These tanks are subject to corrosion, construction failures, and leaks or defects in the associated delivery systems. Therefore, it is imperative that each petroleum storage tank system have safeguards to insure that leaks are detected rapidly with a minimum impact on the environment and the public health.

Underground storage tanks must be registered with KDHE and must meet specific construction, installation, and monitoring criteria. In addition, the tank owner must have financial coverage to provide for environmental cleanup and, in some cases, insurance coverage for third party liability claims related to any releases. The state petroleum storage tank release trust fund provides coverage for the environmental cleanup costs subject to statutory conditions. Third party liability coverage for tank owners is available through a state-sponsored program. Under state law, no distributor may deliver fuel to a regulated underground storage tank that is not registered with KDHE.

Above Ground storage tanks are not currently subject to criteria as stringent as underground storage tanks. However, any aboveground storage tank owner wishing to be eligible for environmental cleanup coverage under the release trust fund must register the tank with KDHE prior to applying for coverage. The Department is developing an expanded aboveground storage tank program authorized by the 1992 Kansas legislature.

Impact on Schools:

Many school districts closed fuel storage systems with the imposition of federal requirements for environmental and third-party liability coverage. Those districts which still maintain underground petroleum storage tank systems should review their compliance with the KDHE and federal regulations. A wide variety of bulletins and brochures are available from the Department's Storage Tank Program. The materials describe the regulatory requirements and eligibility of tank owners for access to the Petroleum Storage Tank release trust fund. School districts which maintain aboveground facilities should take similar actions to ensure compliance with state law and KDHE regulations.

PETROLEUM STORAGE TANKS

Contacts:

KDHE
Bureau of Environmental Remediation
1000 SW Jackson, Suite 410
Topeka, Kansas 66612
(785) 296-1660
www.kdhe.state.ks.us/ber

Storage Tank Regulations

Mike Pomes
(785) 296-1685

Leaking Tanks/Tank Closure

Tom Winn
(785) 296-1684

Petroleum Storage Tank Release Trust Fund

Mickey Trimble
(785) 296-5625

In addition, staff in all of the KDHE District Offices are responsible for storage tank activities. You may wish to contact the appropriate KDHE district office with questions concerning storage tank regulations. (See District Offices).

January, 2004

Purpose of this Document

The U.S. Environmental Protection Agency (EPA) and Center For Disease Control (CDC) have warned of an increased risk of lung cancer associated with exposure to elevated levels of radon in homes. Recently, schools in the State of Kansas and many other states have also been tested for radon, and rooms with elevated concentrations have been found. A nationwide survey of radon levels in schools estimates that nearly one in five has at least one schoolroom with a short-term radon level above the action level of 4 pCi/L (picoCuries per liter) - the level at which EPA recommends that schools take action to reduce the level. EPA estimates that more than seventy thousand (70,000) schoolrooms in use today have high short-term radon levels¹.

Because indoor radon concentrations vary with building construction, ventilation characteristics, and the underlying soil and rock, the only way to determine if a particular school has elevated radon concentrations is to test it. As a result, an increasing number of schools throughout the country are initiating their own radon measurement programs.

Radon Facts

Radon-222 is a colorless, odorless, tasteless, radioactive gas that occurs naturally in soil, rocks, underground water, and air. It is produced by the natural breakdown (radioactive decay) of radium-226 in soil and rocks. The radon breaks down to radon decay products that can attach themselves to particles in the air. Breathing radon decay products increases the chance of developing lung cancer. In fact, the EPA and CDC rank indoor radon among the most serious environmental problems facing us today. It is the second leading cause of lung cancer in the United States. A recent study by the National Academy of Science estimates that there are 22,000 lung cancer deaths in the U.S. each year caused by radon exposure². In outdoor air, radon is usually present at such low levels that there is very little risk. However, when radon enters a building, it and its decay products can accumulate to high concentrations. The Surgeon General's office of the U.S. Public Health Service and the EPA recognize that indoor radon constitutes a substantial health risk, and have publicly advised that most homes be tested. EPA also is encouraging the testing of other structures, such as schools and work places.

Health Effects

Radon effects on the general population

The association between exposure to elevated radon concentrations and increased risk of lung cancer depends not only upon the concentration of radon but the length of time for which a person is exposed. In general, risk increases as the level of radon, the length of exposure, and an individual's smoking habits increases. Estimates of health risks associated with radon are based on lifetime exposure.

RADON

Not everyone who breathes radon decay products will develop lung cancer, and for those that do, the time between exposure and the appearance of cancer may be many years. Lung cancer generally does not appear until a person is at least 35 years of age; in most cases lung cancer is discovered between the ages of 45 and 85. In 1995, there were about 146,400 lung cancer deaths in the United States; EPA estimates that about 14.4 percent (21,100) of these deaths were related to radon exposure. Smoking is clearly the major cause of lung cancer, and many lung cancers may be caused by the combined effect of radon exposure and smoking. In fact, the National Academy of Sciences estimates that exposure to radon and tobacco smoke in combination may be as much as ten times as serious as exposure to either pollutant by itself.

Radon effects on children

There is currently limited data on how radon exposure affects children. Consequently, it is difficult to ascertain whether the risks from radon exposure are higher or lower for children than they are for adults. Most of the data relating lung cancer to radiation exposure during childhood comes from studies on Japanese atomic bomb survivors. These data suggest that children may be more susceptible than adults to cancers induced by radiation. However, sufficient time has not yet elapsed since the atomic bomb exposures to determine if the higher rate of lung cancer development in the exposed children will persist. Until more data becomes available, it is prudent to assume that children are at higher risk from exposure to radon than are adults for two reasons. First, children have smaller lung volumes and higher breathing rates, which may result in higher radiation doses to children from a given radon concentration. Second, the probability that a specific dose of radiation will induce cancer may differ with age.

Radon Exposure in Schools

Schools may be a significant source of radon exposure for children and staff. However, because occupancy patterns in schools differ from those in homes, the actual exposures received by each individual, or even by all students combined, are difficult to determine. Children, teachers, and other school employees may spend most of their time in one room or may visit several classrooms each day. Each of these rooms may have different average radon concentrations. Until more information is available, it is reasonable to assume that a person remains in one school room for six to eight hours a day. This approach provides a margin of safety, since it probably overstates exposure if the rooms with the highest readings are used to assess the maximum health risk due to exposure at school. This does not mean that a radon problem in a school should be taken lightly. Keith Geiger, NEA President, has stated, "all students have the right to expect a safe and healthy school environment. Teachers and other schools employees should encourage their schools to conduct radon tests and undertake all necessary corrective actions. The health of our children demands no less."

Known Information on Radon Entry into Schools

Schools vary in their construction, heating, ventilation, air conditioning (HVAC), and occupancy patterns. EPA has collected information through various studies including a study on the school system in Fairfax County, Virginia, as to how these variables can affect radon concentrations and has considered this information in the development of interim reports. Several observations have been documented:

First, EPA has observed that schools, unlike houses, may be built on several adjoining slabs. The joints between these slabs may offer entry points for radon to enter.

Second, investigating whether an HVAC system is designed and/or operated properly is an important part of understanding radon problems in a school. Sometimes schools were not designed with adequate ventilation. In other instances ventilation systems were not operated properly for reasons such as increased energy cost of uncomfortable drafts. Schools may have one or more complex HVAC systems. HVAC systems in the schools surveyed to date include central air handling systems, room-sized unit ventilators, and radiant heat. The unit ventilators and radiant heat can exist with or without a separate ventilation system. Central air handling systems and unit ventilators were most prevalent in the schools visited and are used in most newer, air conditioned schools.

Depending on the type of HVAC system in a school, operation of the system may produce positive or negative pressure conditions. Positive pressure within a school decreases the potential for radon entry, while negative pressure within a school increases the potential for radon entry. It has been observed that having the HVAC system operating normally, at a reduced rate, or completely shut down can increase or decrease radon concentrations depending on the type of ventilation system and the construction of the school. Even though elevated radon concentrations may exist when the system is off, there is a possibility that the elevated concentrations may dissipate when the system is on. On the other hand, a school may have a ventilation system that creates a negative pressure situation while operating. In this case, there is a greater potential for radon entry when the system is on.

Last, school occupancy patterns can have a varying effect on radon concentrations. Unlike homes, schools are usually closed on weekends and overnight. Because schools are usually unoccupied on weekends and overnight, the HVAC system is often turned down during these period. This could have an affect on the radon concentrations and result in measurements that are not representative of radon concentrations to which children and school employees are exposed. Additional findings from further research in schools points to the facts that radon concentrations in schools typically vary from room to room, and schools in the same general area can have significantly different radon concentrations. It is important to note that radon concentrations vary significantly over time. Changes in ventilation, occupancy patterns, weather conditions, and other variables may cause maximum and minimum screening concentrations in a room to vary by as much as a factor of 10 or more. Average concentration may vary by a factor of two or three. The variability found in schools may be higher than that found in houses. In addition, radon concentrations are considerably higher in basement and first floor rooms than on upper-level floors.

How are Schools Tested for Radon?

Testing for radon is simple. EPA has published guidance that has been issued to schools throughout the country.

Basically, this is how the testing procedure works:

- All frequently used rooms on and below the ground level should be tested.
- Tests should be conducted in the cooler months of the year.
- Screening tests lasting for two days to three months should be conducted to determine a school's potential for having a radon problem.

Screening Test Results

Action

Over 20 pCi/L

School officials should take confirmatory measurements which last two days to four weeks. If screening measurement is above 100 pCi/L, school officials may wish to relocate children.

4 pCi/L - 20 pCi/L

School officials should take nine to 12 month confirmatory measurements.

Less than 4 pCi/L

School officials should decide whether confirmatory measurements are necessary.

- Schools should conduct confirmatory measurements if screening levels indicate a potential radon problem (greater than 4 pCi/L).
- Schools should take action to reduce levels if confirmatory measurements are greater than 4 pCi/L.

If Elevated Levels are Detected

Fortunately, if your school does have elevated radon levels, the problem can be corrected - simply and economically. Proven techniques are available that will lower radon levels -- and lower children's risk of ever developing lung cancer from radon in his or her lifetime. Ann Lynch, past National PTA president has stated, "When environmental hazards such as radon endanger the healthful environment of a school, parents must become involved to ensure that the buildings are safe. Radon in schools poses a real danger, but fortunately one that can be addressed quickly and at relatively low cost. To ignore the problem would be a serious mistake."

The most serious consequence of high radon levels is that our children may be exposed to a risk equivalent of smoking half a pack of cigarettes or more a day. Obviously, the higher the radon level, the greater the risk is of developing lung cancer. As a result of these findings, EPA Administrator, William K. Reilly, recommends that schools nationwide be tested for radon.

Information Available

KDHE's Radiation and Asbestos Control Program has many radon publications available free upon request to public. Members of the staff in the Radiation and Asbestos Control Program are available and willing to give presentation on radon and its health risk to interested parties. More publications on radon in schools are available from KDHE:

- Reducing Radon in Schools: A Team Approach
- Radon in Schools (Brochure)
- Radon Measurements in Schools
- Radon Prevention in the Design and Construction of Schools and Other Large Buildings

For more information contact the Department's Radon office at:

KDHE - Radiation and Asbestos Control Program
1000 SW Jackson, Suite 310
Topeka, Kansas 66612-1366
(785) 296-1560 or 1-800-693-KDHE

Contacts: Kim Steves (ksteves@kdhe.state.ks.us)
Stewart Steen (ssteen@kdhe.state.ks.us)

Website address: www.kdhe.state.ks.us/radiation/

¹ "Radon in Schools (2nd Ed.)", Office of Air and Radiation (6604J), EPA-402-F-94-009, October 1994

² "EPA Assessment of Risks from Radon in Homes", Office of Air and Radiation (6608J), EPA-402-R-03-003, June 2003

SOLID WASTE

January, 2004

The Kansas Department of Health and Environment's (KDHE) Bureau of Waste Management (BWM) oversees the management of solid waste in Kansas. Operating permits are issued to municipal solid waste landfills, construction and demolition waste landfills, industrial waste landfills, transfer stations, compost facilities, incinerators and waste tire transporters, collection centers, processors and monofills.

Technical assistance is available through training, workshops, conferences, a statewide solid waste management plan and financial assistance through grants and contracts to stimulate local or regional recycling; composting; source reduction activities; household hazardous waste, small quantity generators of hazardous waste and agricultural waste pesticides collections.

The Bureau oversees the **Kansas Don't Spoil It!** campaign which was launched in 1996. The program features environmental education initiatives, public awareness activities, programming and numerous public and private partnerships across the state. Every fourth grader in the state receives a quarterly **Kansas Kids Can!** newsletter and teachers can request a copy of the Kansas Don't Spoil It! Activity Guide and related educational and promotional materials for their use.

What can schools do to properly manage their non hazardous solid wastes?

- Update your public health and safety plan to include proper management of solid waste.
- Complete a waste audit of your facility.
- Reduce, reuse or recycle materials whenever possible.
- Pay special attention to the collection, processing, storage and disposal of materials that could be harmful to either individuals or the environment.
- Handle special wastes appropriately. (See grid on next page.)
- Composting on less than half an acre must follow standards but does not require a permit.
- Mercury and products containing mercury should be stored safely. Because of its toxic nature and the problems schools have had with spills, KDHE can arrange for its recycling and reuse.
- Check with KDHE regarding grants for recycling, composting, source reduction and public education activities.
- Check with KDHE regarding technical assistance.
- Contact KDHE's **Kansas Don't Spoil It!** number for public education and awareness materials at 1-800-282-9790.

Contact BMW at (785) 296-1600 FAX (785) 296-8909 <http://www.kdhe.state.ks.us/waste/>
or visit www.kansasdontspoilit.com for more information.

Other Resources

For more tips contact:

Your local solid waste or recycling program.

Kansas Business and Industry Recycling Program, Inc. (KS BIRP)
Chiquita Cornelius, Executive Director
2933 SW Woodside Dr., Suite C
Topeka, Kansas 66614
(785) 273-6808
(785) 273-2405 - FAX
ksbirp@aol.com



KS BIRP provides technical assistance and recycling market information and publishes the *Directory of Kansas Recycling Centers and Programs* (There are over 1,300 in Kansas in 2000.)

Kansas Department of Health and Environment
Bureau of Waste Management
1000 SW Jackson, Suite 320
Topeka, Kansas 66612-1366
(785) 296-1600
(785) 296-8909 - FAX
<http://www.kdhe.state.ks.us/waste>

KDHE provides technical and financial assistance. Materials available include: *Recycling Guide for Kansas Communities and Business*; *Composting Guide for Kansas Communities and Business*; *The Seven Steps for Successful Recycling Program*; and *Kansas Don't Spoil It* promotional and educational materials.



Kansas Don't Spoil It!

1 (800) 282-9790

KDHE's public education and awareness campaign was launched in 1996. Sponsorship of Environmental Education training by the Kansas Association for Conservation and Environmental Education; curriculum and activity guides, quarterly newsletter *Trash Talk!* sent to all fourth graders; annual Calendar Art contests; in class environmental education programming by Stan Slaughter and other activities and materials are used to promote general and specific awareness of waste management issues. There are also about 1.5 million dollars in grants available annually for composting, recycling, source reduction, household hazardous waste, agricultural waste pesticides and proper waste tire management.

The next pages provide a one page guide: *Steps for Successful Recycling in your School* and a three page guide done by the State of Minnesota on *Creating Less Trash at School*.



Steps for Successful Recycling in your School:

- **Obtain** top level support from the School Administration, **involve** the custodial staff from the beginning, and **educate** all participants in the program.
- **Find** a local market, drop-off center, recycling service company, or a waste hauler that offers recycling services.
- **Evaluate** which recyclables are generated in different location of the school in order to determine the best recycling bin locations.

Administrative offices - high grade office paper, computer paper, cardboard, toner cartridges.

Classrooms - mixed paper and in some schools bottles and cans.

Cafeteria - cardboard, steel cans, aluminum cans, bottles, plastics and grease.

Library - paper, magazines, books and newspaper.

Vending areas - aluminum, glass and plastic containers.

- **Make sure** recycling bins are well marked to ensure they will receive the intended recyclable material. Consider restricted openings on lids to cut down on contamination by trash or other materials. (Slots for paper and round holes for bottles and cans). Locate the bins close to trash containers in order to make the choice to recycle easy.
- **Work with** your custodial staff to develop a collection system that they will manage. Adding recyclables to a collection does not increase the amount of material generated. If not properly managed, recyclables may find their way back into the trash.

As a result of the recycling program, you will find that recyclables are being diverted from the waste stream. This should allow the school to reduce the size of waste collection dumpsters or frequency of pickups. By doing this, the school may save money. If recycling is implemented properly for every school in the district, the savings can be significant. Have some of those savings earmarked for program enhancements, small incentives, award programs or special projects that everyone can get involved with or support. Invest the savings in buying recycled products.

- **Educate and re-educate** about your recycling program using the school newspaper, posters, web page, e-mail, school handbook, and student orientation. Update students and staff on the progress of the recycling program in order to involve them in the program and to demonstrate their contribution to improving the environment.
- **Buy Recycled Products.** Collecting and processing recycled materials deals with only two of the three arrows in the recycling logo. If you do not buy products made of recycled materials you still are not recycling. **CLOSE THE LOOP** with your purchases.





Creating less Trash at School

There are lots of ways that we can reduce waste at school. By thinking ahead and being creative, you can reduce your impact on the environment and save money at the same time.

Pack a no-waste lunch

A "no-waste lunch" is a meal that does not end up in the trash. You can buy food items in bulk then put them in reusable containers to carry to school.

Example: Use a reusable lunch box or bag and fill it with your lunch in reusable containers. You could also include a cloth napkin – don't forget to bring it home so you can wash it and use it again. Another idea is to ask your school cafeteria to use items such as reusable trays, napkins and silverware.

Benefits: You create less waste by using washable containers to pack your lunch. Packing your food in reusables is typically less expensive than buying food that comes in disposable containers.

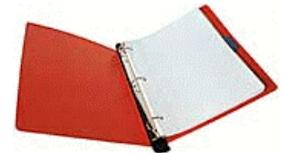


Carry a few **reusables**

At the beginning of each school year, it seems like we need to buy lots of supplies. When you go to the store, look for durable, long-lasting supplies and reuse them.

Example: Refillable pens and pencils, a durable backpack and a lunch box are all great examples of products that can be used over and over again.

Benefits: Items that can be used more than once will reduce waste. If you take care of them, they will last a long time — and maybe you won't have to buy new ones the next year!



Take only as much **food** as you will eat

More than 20 percent of the food we buy gets thrown away. One way to figure out how much food you waste is to measure and track all the food you throw away from your lunch over a fixed period of time. Then you could brainstorm ways to reduce how much food you are throwing in the garbage.



Example: If you are bringing lunch from home, you can use an icepack so that it stays fresh until it is eaten. If you buy from the school cafeteria, only take a small portion of food; if you're still hungry, go back for seconds!

Benefits: About 48 million tons of food is thrown away in the United States each year. By taking only what you can eat or sharing your extras with a friend, you are taking steps to waste less and save money.

Use less paper

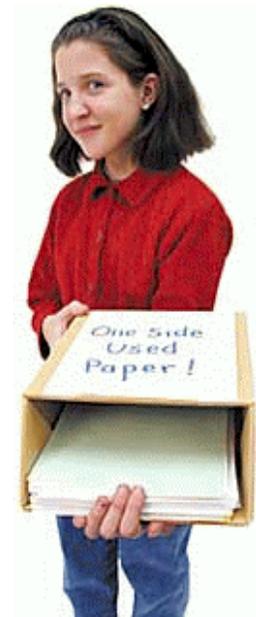
Even though we recycle much of the paper we use, it is still a significant part of what we throw in the trash. Think about all of the paper you've thrown away that only had writing on one side. Those pieces of paper could have been used a second time, potentially cutting your paper use in half. Also, by buying paper and notebooks that contain recycled paper, you complete the recycling loop and create less waste.

Example: Make room in your classroom or at home to put paper that has only been used on one side. Use that paper for notes, or feed the blank side into your printer for draft documents.

You can also make scratch pads out of that single-sided paper by binding one side. Can you "go paperless?" Ask your teacher if you can hand in assignments on a computer disk or via e-mail instead.



Benefits: Because paper and packaging make up such a large part of our garbage, by using less paper you can reduce up to 40 percent of the trash that is thrown away.



Conduct a junk mail campaign

Another large source of paper that is thrown away every day is mail that's unsolicited and unwanted — "junk mail." You can help your school office collect unwanted mail and contact the companies to get off their lists.

Example: Make this into a project by measuring how much unsolicited mail your school receives in a week. Tear off the mailing labels and send them back to the mailer along with a note saying, "Please take us off your list." After a few months, measure the unsolicited mail again. You can then determine how much waste has been eliminated; think about the staff time saved by not having to go through all of that unwanted mail.

Benefits: Decreasing junk mail not only saves paper and reduces paper waste — it also takes less time to sort and deliver the mail each day.



Organize a school-wide rummage sale



Rummage sales are a great way to pass along items that you no longer want to someone who might need them. Instead of throwing your unwanted items away, they will be put to good use.

Example: Plan a class or school-wide rummage sale with your teacher. Collect donations for the sale. Sell used items such as clothes, furniture and sporting goods at an end-of-the-year sale.

Benefits: Buying used items is not only cheaper, but someone else's trash might be your treasure!

Get informed and become more aware

Talk to your teacher about starting or joining an environmental group at school or look for ways to increase your awareness of natural surroundings and environmental issues.

Example: Set up a school waste reduction campaign with your environmental club. You could turn visits to nature areas and parks into service learning class projects.

Benefits: Being informed about environmental issues will give you the knowledge to help yourself and others become environmentally friendly. Connecting your activities with nature helps to increase appreciation and gives extra motivation to take actions to preserve and protect it.

Thanks go to the Minnesota Office of Environmental Assistance at www.reduce.org for the content and pictures.

For more tips contact:

Kansas Don't Spoil It!
1 (800) 282-9790



Kansas Department of Health and Environment
Bureau of Waste Management
1000 SW Jackson, Suite 420
Topeka, KS 66620-0001
(785) 296-1600
(785) 296-8909 - FAX
<http://www.kdhe.state.ks.us/waste>

Your local solid waste or recycling program.

Kansas Business and Industry Recycling Program, Inc. (KS BIRP)
Chiquita Cornelius, Executive Director
2933 SW Woodside Dr., Suite C, Topeka, KS 66614
(785) 273-6808
(785) 273-2405 - FAX
ksbirp@aol.com



SPILLS

January, 2004

State statutes and regulations require that all releases of materials into the environment which pose a threat to the water or soil must be reported to the Kansas Department of Health and Environment (KDHE). This reporting is to be done regardless of the quantity of material spilled. Releases to septic systems and sewers should be reported.

KDHE's Bureau of Environmental Remediation, in conjunction with the KDHE District Offices, has the responsibility for receiving these reports and performing any state response or oversight. In the event of a spill, contact either the Department's Bureau of Environmental Remediation or the District Office immediately. Very minor spills of nonhazardous materials, such as soap or cleaning supplies that are easily handled on the spot, may not require a spill report. If there is any doubt, call the appropriate number. **All mercury spills resulting from thermometers or other lab equipment must be reported.**

There are also requirements for reporting spills to the Division of Emergency Preparedness of the Adjutant General's Office, and the reporting of significant spills to the U.S. Environmental Protection Agency and the National Spill Response Center. KDHE's Bureau of Environmental Remediation can provide assistance in the event of any questions.

Spill Reporting Contacts:

KDHE Bureau of Environmental Remediation

Daytime Number: (785) 296-1679
Evenings and weekends: (785) 296-0614

KDHE District Offices:

Dodge City	(316) 225-0596	Hays	(785) 625-5663
Wichita	(316) 337-6022	Salina	(785) 827-9639
Chanute	(316) 431-2390	Lawrence	(785) 842-4600

(913) 281-0991 - **U.S. Environmental Protection Agency (24 Hour Spill Number)**

(800) 424-8802 - **National Spill Response Center**

(800) 424-9300 - **Chemtrac (for information concerning spilled material)**

LEAD- BASED PAINT

January, 2004

Kansas Childhood Lead Prevention Program Background (KCLPPP)

The mission of the Childhood Lead Poisoning Prevention Program is to establish an infrastructure of trained personnel to screen, identify and recommend proper medical and environmental management of lead-poisoned children. The KCLPPP has been very successful in completing this mission. During the 1999 Kansas Legislature, Senate Bill 107, (K.S.A. 65-1, 201 to 214) was passed and signed by the Governor on April 22, 1999. The legislation provided the Kansas Department Health and Environment the statutory authority to develop and implement a Childhood Lead Poisoning Prevention Program. As a result of K.S.A. 65-1, 201 to 214, Kansas has currently adopted K.A.R. 28-72-1 through 28-72-22: The Kansas Childhood Lead Poisoning Prevention Program Regulations and K.A.R. 28-72-51 through 28-72-54: the Pre-Renovation Education Rule. K.A.R. 28-72-1 through 28-72-22 was published in the Kansas Register on December 23, 1999 and 28-72-51 through 28-72-54, effective June 23, 2000.

K.A.R. 28-72-1 through 28-72-22, requires that all lead occupation professionals that perform lead activities in residential housing and child occupied facilities be certified by KDHE. This includes lead abatement workers, supervisors, project designers, inspectors, risk assessors, and elevated blood level inspectors. It also establishes work practice standards for lead activities and clearance levels for soil, dust, and water. K.A.R. 28-72-1 through 28-72-22, also requires that lead activity firms are licensed and that training providers are accredited by KDHE.

K.A.R. 28-72-51 through 28-72-54 requires the distribution of educational material prior to renovation activities in Pre-1978 housing. These regulations apply to anyone performing work for compensation that will disturb more than 2 square feet of paint. These regulations also describe the record keeping requirements for contractors impacted by this rule.

Following are portions of the rules and regulations which would be of particular concern to officials of school districts in the state of Kansas:

Any persons conducting inspections or lead abatement activities in residential housing or child occupied facilities are required to be certified by the KDHE. By definition, a “child-occupied facility” means a building, or portion of a building, constructed before 1978, visited by the same child six years of age or under, on at least two different days within any seven consecutive days, if each day’s visit last at least six hours, and the combined annual visits last at least 60 hours. Child-occupied facilities shall include day care centers, preschools, and kindergarten classrooms.

The KCLPPP does not provide the training for the various certification levels but accredits the training providers. Currently, there are six training providers accredited by KDHE.

LEAD-BASED PAINT

Certifications and licenses are granted for two years. Following is the fee schedule for the different disciplines and licenses.

Worker	\$ 50
Supervisor	\$150
Lead Inspector	\$200
Risk Assessor	\$300
Lead Activity Firm	\$500

Work practice standards for the abatement of lead-based paint have been established to protect workers and occupants and are listed under K.A.R. 28-72-18 through 28-72-18e. Project notification of any abatement project in residential housing or child-occupied facilities is required to be given to the KDHE at least 10 days prior to the commencement of the project. The notification shall be mailed to the KDHE with a check or money order made payable to the Kansas Department of Health and Environment for the project fee specified under K.A.R. 28-72-3, the greater of 1% of the abatement project or \$50.00.

Questions regarding the program can be directed to:

Childhood Lead Poisoning Prevention Program
Kansas Department of Health and Environment
1000 SW Jackson, Ste. 200
Topeka, Kansas 66612

Anne Lowder (785) 296-5606
Tom Morey (785) 368-7154

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K.S.A. 44-636 grants the Secretary of Human Resources the power to (1) inspect workplaces for safety and health conditions; (2) make findings thereon; (3) notify those in control of the workplace of any findings of unsafe or unsanitary conditions; and (4) order corrective measures. Functioning under the Secretary's authority, the Industrial Safety and Health Section of the Division of Workers Compensation of the Department of Human Resources conducts safety and health inspections of public sector agencies including cities, counties, school districts, fire departments, state agencies, etc. A report or notice is issued which identifies hazardous conditions based on a national consensus standard and recommends an appropriate abatement protocol to be completed in 60 days. Although a formal hearing can be requested and scheduled on any findings, the preferred approach is to modify the recommendation if a reasonable alternative is suggested and to extend the abatement date so as not to present a hardship for the agency involved.

National consensus standards are used only to identify hazardous conditions. Thus the "standard" is an educational tool and the "inspector" becomes a consultant in his evaluation (K.S.A.75-5740). Occupational Safety and Health Administration (OSHA) standards are minimum safety and health standards. Many employers opt for a more protective level of safety when advised of this fact. This is especially true with regard to chemical exposures where the American Conference of Governmental Industrial Hygienists (ACGIH) or National Institute of Occupational Safety & Health (NIOSH) values take precedence over the OSHA Permissible Exposure Limits. This is one reason why KDHR is interested in teaming with School Districts in interpreting relevant standards. You may be interested in a higher level of protection than OSHA requires. KDHR has not promulgated a set of regulations for enforcement because of the desire to reference the most current and protective standard which better fulfills our educational and informational purposes. Compliance is required based on an order relative to a particular set of facts which pose a hazard to employees identified by a competent and objective inspector (K.S.A. 77-415(4)).

We have assembled the following pages to assist you in developing or reviewing some of the written programs determined necessary through experience or studies to provide a safe and healthful work place for employees.

29 CFR 1910.1200 HAZARD COMMUNICATION

The following steps should aid in complying with the standard:

1. Read the standard - 1910.1200.
2. List the chemicals and materials that may be hazardous.

NOTE: 1910.1450 is an alternate program to 1910.1200. Analytical laboratories or those handling a great variety of chemicals may opt to use this standard.

3. Obtain material safety data sheets (MSDS) for all materials that may be hazardous from the manufacturer, distributor, or importer.
4. Make sure all containers are labeled to include the identify of the material and physical or health hazard warnings.
5. Develop and implement a written hazard communication program.

Contents of the written program needs to include the following:

1. General policy statement about the program and who is responsible for the program.
2. How the list of chemicals and materials will be developed, updated, and who will maintain the master list.
3. Procedures for obtaining and maintaining material safety data sheets (MSDS) to include location at each work site and person responsible for organization and updating of MSDS.
4. Procedures for insuring all containers are labeled.
5. Procedures to follow before performing non-routine tasks.
6. Statement on information and training requirements to include these items:
 - summary of the standard and this written program
 - properties of hazardous materials and detection methods from presence or release of chemicals
 - physical hazards (e.g., potential for fire, explosion)

29 CFR 1910.1200 - Cont'd HAZARD COMMUNICATION

- health hazards, including signs and symptoms of exposure and medical conditions known to be aggravated by exposure
 - procedures to protect against hazards
 - work procedures to follow for spills or leaks
 - location of MSDS's and how to read labels and MSDS's and location of additional information
1. Procedures for advising outside contractors of encountering any chemical hazards present and notification by the contractor of chemicals being brought on site and providing hazard information and precautionary measures to be taken.
 2. Indication of location of additional information.

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For a copy, write to:

Consumer Product Safety Commission
EX-O, Room 412
Washington, DC 20207

For disposal of unwanted or waste chemicals, contact the following agencies:

Kansas Department of Health & Environment
Building 740, Forbes Field
Topeka, KS 66620
(785) 296-1600

Environmental Protection Agency
Region 7
324 East 11th Street
Kansas City, MO 64106
(816) 926-3720

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29 CFR 1910.1030 BLOODBORNE PATHOGENS

This program covers all employees who could be “reasonably anticipated” as the result of performing their job duties to face contact with blood and other potentially infectious materials.

INFECTIOUS MATERIALS

Infectious materials include semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, any body fluid visibly contaminated with blood and all body fluids in situations where it is difficult or impossible to differentiate between body fluids. Sweat, saliva, and tears are not considered as infectious, unless they are contaminated with blood.

EXPOSURE CONTROL PLAN

An exposure control plan must be implemented in writing by the employer, identifying tasks and procedures as well as job classifications where occupational exposure to blood occurs— without regard to personal protective equipment and clothing. For example, janitorial services, nurses stations, coaches, etc. This plan should mandate Universal Precaution, which means treating body fluids/materials as if infectious.

WORK AREA RESTRICTIONS

In work areas, such as nurses station, where there is a reasonable likelihood of exposure to blood or other potentially infectious materials, employees are not to eat, drink, apply cosmetics or lip balm, smoke, or handle contact lenses. Food and beverages are not to be kept in refrigerators, freezers, shelves, cabinets, or on counter tops or bench tops where blood or other potentially infectious materials are present.

PERSONAL PROTECTIVE EQUIPMENT

All personal protective equipment used will be provided without cost to the employees. Personal protective equipment will be chosen based on the anticipated exposure to blood or other potentially infectious materials. The protective equipment will be considered appropriate only if it does not permit blood or other potentially infectious materials to pass through or reach the employee’s clothing, skin, eyes, mouth, or other mucous membranes under normal conditions of use and for the duration of time which the protective equipment will be used. All personal protective equipment will be cleaned, laundered, and disposed of by the employer at no cost to the employees. All repairs and replacements will be made by the employer at no cost to the employees.

HEPATITIS B VACCINE

All employees who have been identified as having exposure to blood or other potentially infectious materials will be offered the Hepatitis B vaccine, at no cost to the employee. The vaccine will be offered within 10 working days of their initial assignment to work involving the potential for occupational exposure to blood or other potentially infectious materials.

Since December of 1999, CDC has updated their requirements in giving the Hepatitis B vaccination to include a titer test. Employees receiving vaccinations after this date should comply with the current CDC guidelines. Requirement is not retroactive for employees receiving the vaccination series prior to December of 1999.

NOTE: All first aid providers who render assistance in any situation involving the presence of blood or other potentially infectious materials, regardless of whether or not a specific exposure incident occurs, must be offered the full immunization series—as soon as possible but in no event later than 24 hours. If an exposure incident as defined in the standard has taken place, other post-exposure follow-up procedures must be initiated immediately, per the requirements of the standard.

DECONTAMINATION

Every employer whose employees are exposed to blood or other potentially infectious materials must develop a written schedule for cleaning each area where exposures occur. The methods of decontaminating different surfaces must be specified, determined by the type of surface to be cleaned, the soil present and the tasks or procedures that occur in that area.

TRAINING

Training for all employees will be conducted prior to initial assignment to tasks where occupational exposure may occur. All employees will receive annual refresher training. Training records must be maintained on file for three years. Employees using engineering control such as needle recappers, must be trained on their use prior to use. Improper training may result in an increase in exposure to misuse of new controls.

REGULATED WASTE

All contaminated sharps must be deposited in properly marked puncture resistant containers. Other regulated waste must be placed in appropriate containers with proper identification.

LAUNDRY PROCEDURES

Contaminated laundry will be placed in marked bags at the location. All employees handling contaminated laundry will utilize personal protective equipment. Offsite laundry service must be notified, in accordance with section (d) of the standard. Employees cannot take contaminated clothing or laundry home.

POST-EXPOSURE EVALUATION AND FOLLOW-UP

All employees who incur an exposure incident will be offered post-exposure evaluation and follow-up in accordance with the standard. All post exposure evaluations should comply with latest CDC guidelines. As we develop treatment for HIV and drugs to reduce transmission, more treatment options will become available to physicians. Since some treatments may pose a risk, the physician should consider this risk and discuss it with his patient when determining the course of post exposure treatment to be followed.

For example prophylactic drugs that reduce the incidence of serow conversion to HIV have been developed. They may cause side effects. These side effects and exposure parameters should be considered by the physician prescribing treatment.

INTERACTION WITH HEALTH CARE PROFESSIONALS

Written opinions will be obtained in the following instances:

1. Employee sent to obtain the hepatitis B vaccine.
2. Employee sent for care following an exposure incident.

29 CFR 1910.134 RESPIRATORY PROTECTION RULES

RECORD KEEPING

Medical records pertaining to vaccination or exposure evaluations must be kept on file for the duration of employment plus 30 years.

Respirators shall be provided by the employer when such equipment is necessary to protect the health of the employee. The employer shall be responsible for the establishment and maintenance of a respiratory protection program which includes the following:

- Written standard operating procedures governing the selection and use of respirators shall be established.
- Respirators must be fit tested either qualitatively or quantitatively prior to use, whenever the individual experience a physical change that might interfere with a facial seal (loss or gain of 20 lbs, scarring, dentures, etc.). Fit testing must be completed when indicated and a minimum of yearly rechecks is strongly recommended.
- Respirators shall be selected on the basis of hazards which the worker is exposed.
- The user shall be instructed and trained in the proper use of respirators and their limitations.
- Respirators shall be regularly cleaned and disinfected.
- Filters should be changed and replaced per manufacturer instructions.
- Respirators shall be stored in a convenient, clean, and sanitary location.
- Respirators for emergency use shall be thoroughly inspected at least once a month and after each use.
- Appropriate surveillance of work area conditions and degree of employee exposure or stress shall be maintained.
- Standard procedures shall be developed for respirator use. These should include all information and guidance necessary for their proper selection, use and care. Possible emergency and routine uses of respirators should be anticipated and planned for.
- Written procedures shall be prepared covering safe use of respirators in dangerous atmospheres that might be encountered in normal operations or in emergencies.

29 CFR 1910.134-Cont'd RESPIRATORY PROTECTION RULES

- All respirators shall be inspected routinely before and after each use.
- After inspection, cleaning and necessary repair, respirators shall be stored to protect against dust, sunlight, heat, extreme cold, excessive moisture, or damaging chemicals.
- Approved or accepted respirators shall be used when they are available.
- Persons should not be assigned to tasks requiring use of respirators unless it has been determined that they are physically able to perform the work and use the equipment. The local physician shall determine what health and physical conditions are pertinent. The respirator user's medical status should be reviewed periodically. A licensed health care provider shall determine the health and physical condition of the employee. A questionnaire may be used. In Kansas the health care provider must be under the direction of a physician who will determine what additional testing is required and make the final decision as to the employee's capability of wearing a respirator.

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ANSI/ASHRAE STD 62-2001 INDOOR AIR QUALITY

SICK BUILDING SYNDROME

Sick building syndrome generally, refers to low-level airborne contamination within a building which may induce certain physical and/or psychological reactions or symptoms, especially in hypersensitive individuals.

SYMPTOMS

- Nonspecific annoyance or discomfort complaints - controlled by ventilation system.
- Substantial percentage of occupants complain of acute discomfort including: headaches; eye, nose, or throat irritation; dry cough; dry or itchy skin; dizziness; difficulty concentrating; fatigue; and sensitivity to odors. (More than 20%)

Most symptoms lessen upon leaving building.

REASONS FOR COMPLAINTS

- Sealing up buildings for energy efficiency.
- Reduced level of ventilation system operation.
- New synthetic materials.
- Increased worker awareness and concern.

TYPES OF INDOOR AIR CONTAMINANTS

- | | |
|--|-------------------|
| - Products of Combustion | - Dusts |
| - Human Respiration Products | - Tobacco Smoke |
| - Outdoor Air Contaminants | - Formaldehyde |
| - Chemical Agents (pesticides, cleaners, etc.) | - Bacteria, molds |

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29 CFR 1910.176 MATERIALS HANDLING & STORAGE

Materials handling injuries originate in inadequate planning, work location design, scheduling, storage, housekeeping, training, work performance, and equipment selection and use. Look for these trouble spots to assess your facility's potential for materials handling injuries:

- A high incidence of sprains and strains (especially to the back).
- Crowded, cluttered locations (work stations, docks, aisles).
- Required movement of single items rather than units or bulk.
- Manual handling of materials over 50 pounds.
- Repetitive handling of materials.
- Excessive temporary storage.
- Skilled workers wasting time on needless materials handling.
- Excessive damage to materials and/or equipment.
- Poor housekeeping.

If problems such as these are found, steps must be taken to upgrade the materials handling practices. These indicators imply a need for improved planning and organization. They suggest that materials handling activities must be identified, analyzed, prioritized, and corrected. Solving materials handling problems demands a proper combination of methods, labor, and equipment to move, package, and store materials.

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29 CFR 1910.252 WELDING, CUTTING, AND BRAZING

The hazards generally associated with welding are hot sparks, arc radiation, air contamination, electrical shock, chipping slag, and the handling of compressed gases. There is also the potential for fire or explosion in the welding area. The most significant hazard associated with the welding process is the generation of fumes and gases. Some general safety practice guide- lines are listed below:

- Before cutting or welding is permitted, the area shall be inspected by the individual responsible for authorizing cutting and welding operations.
- Where combustible materials such as paper clippings, wood shavings, or textile fibers are on the floor, the floor shall be swept clean for a radius of 35 feet. Combustible floors shall be kept wet, covered with damp sand, or protected by fire resistant shields. Where floors have been wet down, personnel operating arc welding or cutting equipment shall be protected from possible shock.
- Where cutting or welding is done near walls, partitions, ceilings or roof of combustible construction, fire resistant shields or guards shall be provided to prevent ignition.
- Management shall recognize its responsibility for the safe usage of cutting and welding equipment on its property.
- Insist that cutters or welders and their supervisors are suitably trained in the safe operation of their equipment and the safe use of the process.
- Advise all contractors about flammable materials or hazardous conditions of which they may not be aware.
- The supervisor shall determine that fire protection and extinguishing equipment are properly located at the site.
- Do not weld in confined spaces without following confined space welding procedures.

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SELECTION, CARE, AND USE OF LADDERS

- For maximum serviceability and safety and to eliminate unnecessary damage to equipment, good safe practices in the use and care of ladder equipment shall be employed by the users.
- The major causes of falls from self-supported portable ladders are lack of stability and sliding. Major causes of falls from non-self-supporting portable ladders are lateral sliding at the top support, and human slip.
- Proper selection of a ladder is essential for ensuring safety and reducing the potential for accidents.
- Proper use of a ladder will contribute significantly to safety. Factors contributing to falls include haste, sudden movement, lack of attention during use, ladder condition (worn or damaged), user's age or physical condition, or both, and the user's footwear. The likelihood of falls is not increased by the user's excessive weight or size. However, improper climbing posture creating user clumsiness on the ladder may cause falls.
- The safe useful life of a ladder is dependent upon its proper in-service care. While ladders are designed for extended service, it is necessary to provide periodic in-service care and maintenance to ensure their continued safe use. Ladders are not designed or intended to possess an infinite safe useful life.
- Nonslip bases should be attached to the rails of portable rung ladders.
- Ladders are required to be kept in good condition at all times.
- Ladders with broken or missing steps, rungs, or cleats, broken side rails or other faulty equipment are not to be used.

SCAFFOLDING

- The footing of anchorage for scaffolds must be sound, rigid, and capable of carrying the maximum load intended without danger of settling or displacement. The use of barrels, boxes, blocks, etc., is prohibited.
- Guardrails and toeboards are required to be installed on all open sides and ends of platforms more than ten (10) feet above the ground or floor.
- Scaffolds shall be capable of supporting, without failure, their own weight and at least four times the maximum intended load.
- Scaffolds shall not be moved horizontally nor altered while they are in use or occupied, except when a scaffold has been specifically designed for such use.
- The minimum platform width for any work level shall not be less than 20 inches for mobile scaffolds (towers). Ladder stands shall have a minimum step width of 16 inches.

- Each disconnecting means required by this code for motors, appliances and each service, feeder or branch circuit at the point where it originates is required to be legibly identified unless located and arranged so the purpose is evident.
- At least one entrance of sufficient area shall be provided to give access to the working surface about electrical equipment.
- Sufficient space shall be provided and maintained about electrical equipment to permit ready and safe operation and maintenance of such equipment.
- Equipment connected by cord and plug needs grounding. Except double insulated.
- Unused openings in cabinets, boxes, and fittings shall be effectively closed.
- In completed installations each outlet box shall have a cover faceplate or fixture canopy.
- Flexible cords (extension cords) and cables shall be approved and suitable for conditions of use and location.
- The use of flexible cords (extension cords) as a substitute for fixed wiring for a structure, where run through holes in walls, floors, ceilings, doorways or windows, where attached to building surfaces, or concealed is **PROHIBITED**.
- Flexible cords may be used only in continuous lengths without splice or tap.
- Flexible cords shall be connected to devices and fittings so that strain relief is provided which will prevent pull from being directly transmitted to joints or terminal screws.
- Training is required for employees who face a risk of electrical shock that is not reduced to a safe level. The provisions cover electrical safety-related work practices for both qualified and unqualified persons. The training shall be of the classroom or on-the-job type. The degree of training shall be determined by the risk to the employee.

29 CFR 1910.242 TOOLS-HAND & PORTABLE POWERED

- Employers are responsible for the safe condition of tools and equipment used by employees, including those which may be furnished by employees.
- Compressed air is not to be used for cleaning purposes unless reduced to 30 p.s.i.
- Safety guards used on machines known as right angle head or vertical portable grinders should have a maximum exposure angle of 180 degrees and the guard should be located so as to be between the operator and the wheel during use.
- Abrasive blast cleaning nozzles are required to be equipped with an operating valve which must be held open manually.
- When a tool develops a defect during use, the operator shall immediately cease to use it, until it is properly repaired.

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- Provide protection to operator and others from hazards created by point-of-operation, ingoing nip points, rotating parts, flying chips and sparks.
- Fan blades less than 7' from floor shall be enclosed with guarding with openings no larger than ½ inch.
- Table saws, radial saws, bandsaws, jointers, wood shapers, lathes, and sanding machines are covered under various guard and safety devices for woodworking machinery.
- Offhand grinders with abrasive wheels require enclosed guarding, along with work rests and exposure adjustment features.

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Guarding is required for apparatus within 7' of the floor or working platform. Included apparatus are shafting, pulleys, belts, rope, and chain drives, gears, sprockets, projecting parts, collars and couplings.

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72-5207

Chapter 72.--SCHOOLS

Article 52.--HEALTH PROGRAMS

72-5207. Eye protective devices required when participating in certain courses. Every student and teacher in all schools, colleges, and universities or other educational institutions participating in any of the following courses:

(A) Vocational, technical or industrial arts shops or laboratories involving experience with:

1. Hot molten metals, or other molten materials;
2. Milling, sawing, turning, shaping, cutting, grinding, or stamping of any solid materials;
3. Heat treatment, tempering, or kiln firing of any metal or other materials;
4. Gas or electric arc welding, or other forms of welding processes;
5. Repair or servicing of any vehicle;
6. Caustic or explosive materials;

(B) Chemical or combined chemical-physical laboratories involving caustic or explosive chemicals or hot liquids or solids, or injurious radiations, or other hazards not enumerated; is required to wear appropriate industrial quality eye protective devices at all times while participating in such courses or laboratories. Such devices may be furnished for all students and teachers, and shall be furnished for all visitors to such classrooms and laboratories. Such devices may be purchased in large quantities and sold at cost to students and teachers.

"Industrial quality eye protective devices," as used in this section, means devices meeting the standards of the United States of America standard practice for occupational and educational eye and face protection, Z87. 1-1968, promulgated by the American National Standards Institute, Inc.

The provisions of this section shall apply to industrial quality eye protective devices purchased or otherwise obtained for use after the effective date of this act, and shall not have retroactive application to disqualify any such device in use on or before the effective date of this act.

History: L. 1967, ch. 408, §§ 1; L. 1978, ch. 290, §§ 1; July 1.

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