

**BUREAU OF ENVIRONMENTAL REMEDIATION/REMEDIAL SECTION  
POLICY  
POTENTIAL APPLICABLE OR RELEVANT AND  
APPROPRIATE REQUIREMENTS (ARARs)**

**BER Policy #BER-RS-015**

**Date: May 1995**

**Revised 2001**

**Revised 2005**

**Pages: 14**

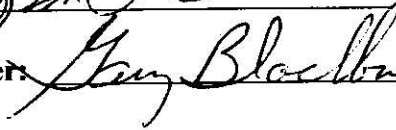
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12/27/05

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12/30/05

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**Date of Revision: 12/17/01**

**Revisor: Mary Daily and E. Jean Underwood Date of Revision: 8/9/05**

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**Date: 1995**

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The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 as amended by the Superfund Amendments and Reauthorization Act of 1986, stipulates that the cleanup standards or controls for hazardous substances, pollutants or contaminants be in accordance with any applicable or relevant and appropriate requirements (ARAR) designated under state or federal law (CERCLA §121(d)). Applicable requirements are those cleanup standards or controls that are promulgated under state or federal law that specifically address a hazardous substance, pollutant or contaminant, action, location or other situation at a site. Specifically, an applicable requirement is a requirement that a potentially responsible party would have to comply with by law if the same action or activity were being undertaken apart from CERCLA authority. If a requirement is not applicable, it still may be relevant and appropriate. Relevant and appropriate requirements are those cleanup standards or controls that do not specifically or fully address a hazardous substance, pollutant or contaminant, action, location or other situation at a site, but address similar situations. For example, remedial standards for environmental media established in K.A.R. 28-71-11 are applicable to those sites addressed under the auspices of the Voluntary Cleanup and Property Redevelopment Program yet are designated relevant and appropriate for all other sites addressed by the Bureau of Environmental Remediation/Remedial Section. Once a requirement is deemed relevant and appropriate, it must be complied with as if it were applicable. In some situations, only portions of a requirement or regulation may be determined to be relevant and appropriate; if a requirement is applicable, however, all substantive parts must be followed.

There are three general categories of ARARs: 1) chemical-specific; 2) location-specific; and 3) action-specific. Chemical-specific ARARs are those that pertain to handling or control of certain chemicals and are typically health- or risk-based numerical values or methodologies. As a general rule, if more than one chemical-specific ARAR exists for a particular contaminant, the most stringent should be applied. Location-specific ARARs are those that control activities based on the location such as flood plains, wetlands, historic sites, or sensitive ecosystems. Action-specific ARARs are those that govern discrete actions that may include the use of certain technologies for remedial actions or use of certain types of equipment. Action-specific ARARs do not determine the remedial alternative; rather, they indicate how a selected alternative must be achieved. At its discretion, KDHE may also identify policies or guidelines that are to be considered (TBC) standards for a site. TBC standards have not been promulgated but are used in conjunction with ARARs to achieve acceptable risk levels at a site. As a point of clarification, a promulgated standard may be an ARAR, but is never a TBC. At the discretion of the KDHE

project manager, copies of pertinent TBCs (i.e., items not readily available to the public or subject to change) should be incorporated into the Administrative Record file for the site.

ARAR identification is a site-specific and an evolving process, beginning during the initial scoping phase of the remedial investigation (RI) or site characterization and continuing through remedial alternatives development and analysis during the feasibility study (FS) up to issuance of the final remedy decision document (i.e., Record of Decision (ROD) or Corrective Action Decision (CAD)). ARARs should also be identified during Removal Actions where practicable, given consideration to the critical nature of the situation. All ARARs are generally “frozen” as of the signature date of the ROD or CAD unless KDHE later determines that new standards are necessary to ensure the remedy is protective of human health and the environment. A list of some federal and state laws and regulations is provided below (Table 1) to aid in identifying ARARs for Remedial and Removal Actions for sites in Kansas. The list of federal and state laws identified may not be comprehensive. The responsible party and KDHE project manager should work together to comprehensively identify in a timely manner all site-specific ARARs and other standards that pertain to the contemplated remedial action(s) for the site. As part of the ARARs identification process, it is important to be as specific as possible regarding the exact citation. Table 2 presents an example of select site-specific ARARs and TBCs identified for a site in Kansas. It is highly recommended that this table format be used to document the ARARs identification process for a given site and memorialized in the ROD or CAD. In addition, it is notable that some ARARs can be given a “potentially applicable” designation to acknowledge the possible applicability under a given set of circumstances, dependent ultimately on remedial design details and remedy implementation.

#### Abbreviations:

ARAR – Applicable or Relevant and Appropriate Requirements  
BER – Bureau of Environmental Remediation  
CFR – Code of Federal Regulations  
K.A.R – Kansas Administrative Regulation  
KDHE – Kansas Department of Health and Environment  
U.S.C. – United States Code

**TABLE 1  
FEDERAL POTENTIALLY APPLICABLE RELEVANT AND APPROPRIATE  
REQUIREMENTS**

<b>Citation</b>	<b>Description</b>	<b>Comment</b>
<p><b>Archaeological and Historic Preservation Act of 1974</b></p> <p>16 U.S.C. § 469 et seq.</p>	<p>Provides for the preservation of historical or archaeological data which might be destroyed or lost as the result of 1) flooding, building of access roads, relocation of railroads and highways, and other alterations of terrain caused by the construction of a dam by government or persons, or 2) alteration of terrain caused by Federal construction projects or federally licensed activity or program.</p>	<p>Will be applicable if construction projects or alteration of terrain at a site have the potential to destroy historical or archaeological materials.</p>
<p><b>Clean Air Act (CAA)</b></p> <p>42 U.S.C. § 7401 et seq. as amended in 1977 and 1990</p> <p>Standards of Performance for New Stationary Sources (40 CFR 60)</p> <p>National Emission Standards for Hazardous Air Pollutants (40 CFR 61)</p> <p>National Emission Standards for Hazardous Air Pollutants for Source Categories including Site Remediation (40 CFR 63)</p>	<p>Regulates air emissions from area, stationary, and mobile sources. Authorizes EPA to establish National Ambient Air Quality Standards.</p> <p>Identifies standards of performance for new stationary sources of air emissions. Provides emission guidelines and compliance times.</p> <p>Identifies emission standards for specific hazardous air pollutants.</p> <p>Identifies emission standards for hazardous air pollutants that originate from specific categories of sources including site remediation.</p>	<p>May be applicable if remedial actions result in emissions of contaminants to the air.</p> <p>Will be applicable for new stationary sources of air emissions.</p> <p>Will be applicable if the identified hazardous air pollutants are emitted from a site.</p> <p>Will be applicable if the identified hazardous air pollutants are emitted from a specific source category that has been identified.</p>
<p><b>Clean Water Act (CWA) of 1977</b></p> <p>33 U.S.C. § 1251 et seq. as amended in 1987</p> <p>National Pollutant Discharge Elimination System (NPDES) (40 CFR 122)</p> <p>Storm Water Discharge Requirements NPDES (40 CFR 122.26)</p> <p>Federal Water Quality Standards (40 CFR 131)</p> <p>General Pre-treatment Regulations for Existing and New Sources of Pollution for Publicly Owned Treatment Works (40 CFR 403)</p>	<p>Implements a system to impose effluent limitations on, or otherwise prevent, discharges of pollutants into any waters of the United States from any point source.</p> <p>Regulates discharges of pollutants from any point source into waters of the United States</p> <p>Provide requirements to obtain a permit to discharge to the storm water sewer system under the NPDES program</p> <p>Establishes methods and requirements for states in the development of ambient water quality criteria for the protection of aquatic organisms and/or the protection of human health.</p> <p>Provides effluent limitations and guidelines for existing sources, standards of performance for new sources, and pre-treatment standards for new and existing sources.</p>	<p>Will be applicable if discharges to streams, rivers, or lakes occur from a site.</p> <p>Will be applicable if water from the site will be discharged onto land or into streams, rivers or lakes.</p> <p>Will be applicable if the site has storm water that comes in contact with construction or industrial activity or if the selected remedy involves discharge of treated water to surface waters.</p> <p>May be indirectly applicable to surface water remediation and is directly applicable to surface water discharges.</p> <p>Will be applicable if wastewater from a site is discharged to a Publicly Owned Treatment Works (POTW).</p>

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<p><b>Clean Water Act (CWA) of 1977</b> Wetlands Protection (40 CFR 22, 40 CFR 230 to 233, and 33 CFR 320 to 330)</p>	<p>Allows for permitting of discharge of dredged or fill material to the waters of the United States if no practicable alternatives exists that are less damaging to the aquatic environment. Applicants must demonstrate that the impact to wetlands is minimized.</p>	<p>Will be applicable if designated wetlands are impacted by a remedy.</p>
<p><b>Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980</b></p> <p>42 U.S.C. § 9601 et seq. as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986</p> <p>National Oil and Hazardous Substances Pollution Contingency Plan (NCP) (40 CFR 300)</p> <p>40 CFR 300.440</p>	<p>Enacted to provide Federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health and the environment. Established a trust fund (i.e., Superfund) to provide for cleanup when no responsible party is identified. Provides for liability of persons responsible for releases of hazardous substances. Established prohibitions and requirements concerning closed and abandoned hazardous waste sites.</p> <p>Federal government’s blueprint for responding to spills or releases of oil and hazardous substances.</p> <p>Establishes procedures for planning and implementing off-site response actions.</p>	<p>Will be applicable if the site is on the EPA National Priorities List (NPL). May be applicable for any site where a release of hazardous substances has occurred.</p> <p>Formally referred to as the “off-site rule” wherein required to determine compliance status of the disposal facility.</p>
<p><b>Emergency Planning and Community Right-to-Know Act (EPCRA) of 1986</b></p> <p>42 U.S.C. § 11001 et seq.</p>	<p>Designated to help local communities protect public health, safety and the environment from chemical hazards. Enables states and communities to prepare to respond to unplanned releases of hazardous substances. Requires facilities at which hazardous substances are present to report the presence of these materials to emergency responders. Requires companies to report the release of hazardous substances.</p>	<p>Will be applicable if hazardous chemicals are stored or used at a facility.</p>
<p><b>Endangered Species Act of 1973</b></p> <p>7 U.S.C. § 136; 16 U.S.C. § 460 et seq.</p>	<p>Provides a program for conservation of threatened and endangered plants and animals and the habitats in which they are found.</p>	<p>Will be applicable if threatened or endangered species, or their habitats are present at or near a site.</p>
<p><b>Explosives</b></p> <p>18 U.S.C. § 847</p>	<p>Regulates commerce in explosives. Requires licensing and permitting, record keeping and reporting for purchase and use of explosives. Provides standards for storage of explosive materials.</p>	<p>Will be applicable if explosives are purchased, stored or used at a site.</p>
<p><b>Federal Hazardous Materials Transportation Law</b></p> <p>49 U.S.C. § 5101 et seq.</p>	<p>Regulates the transportation of hazardous wastes and hazardous substances by aircraft, railcars, vessels, and motor vehicles. Requires employers to train, test and maintain training records for all hazmat employees.</p>	<p>Will be applicable if hazardous materials are transported to or from a site.</p>

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<p><b>Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) of 1972</b></p> <p>7 U.S.C. § 136 et seq.</p>	<p>Provides Federal control of pesticide distribution, sale and use. Allows EPA to study the consequences of pesticide use. Requires users of pesticides to take exams for certification as applicators of pesticides. Pesticide users must register purchases of these materials.</p>	<p>May be applicable if pesticides were distributed, sold or used at a site.</p>
<p><b>Fish and Wildlife Conservation Act</b></p> <p>16 U.S.C. § 2901 to 2911</p>	<p>Action to conserve fish and wildlife, particularly those species that are indigenous to the state.</p>	<p>Will be applicable if significant populations are present at a site or they are affected by site activities.</p>
<p><b>Fish and Wildlife Coordination Act</b></p> <p>16 U.S.C. § 661-667e</p>	<p>The Act allows the Departments of Agriculture and Commerce to assist Federal and State agencies to study the effects of domestic sewage, trade wastes, and other polluting substances on wildlife.</p>	<p>Will be applicable if significant populations are present at a site or they are affected by site activities.</p>
<p><b>Flood Control Act of 1944</b></p> <p>16 U.S.C. § 460</p>	<p>Provides the public with knowledge of flood hazards and promotes prudent use and management of flood plains.</p>	<p>Will be applicable if a site is located on a designated flood plain.</p>
<p><b>National Historic Preservation Act of 1966</b></p> <p>16 U.S.C. § 470 et seq.</p>	<p>Establishes a national registry of historic sites. Provides for preservation of historic or prehistoric resources.</p>	<p>Will be applicable if a site is listed on historic registry and if activities requiring permitting are initiated at a site.</p>
<p><b>Occupational Safety and Health Act (OSHA) of 1970</b></p> <p>29 U.S.C. § 651 et seq.</p> <p>Occupational Safety and Health Standards (29 CFR 1910)</p> <p>Safety and Health Regulations for Construction (29 CFR 1926)</p>	<p>Enacted to ensure worker and workplace safety. Employers are required to provide workers a place of employment that is free from recognized hazards to safety and health.</p> <p>Provides standards for workers and the workplace including: working surfaces; means of egress; ventilation; noise; hazardous materials; personal protective equipment; sanitation; medical services and first aid; fire protection, detection, and suppression; materials handling and storage; machinery and machinery guards; power tools; and welding and electrical equipment. Also requires training for workers.</p> <p>Provides standards for construction activities including: work practices; safety equipment; scaffolding and ladders; fall protection; heavy equipment; excavations; concrete and masonry construction; steel erection; tunnels and shafts; demolition; use of explosives; power transmission and distribution; and overhead protection.</p>	<p>Applies to workers and workplaces.</p> <p>Will be applicable to workers and workplaces including hazardous waste sites.</p> <p>Will be applicable to workers and workplaces where construction activities take place.</p>

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<p><b>Resource Conservation and Recovery Act (RCRA) of 1976</b></p> <p>42 U.S.C. § 6901 et seq. as amended by the Hazardous and Solid Waste Amendments of 1984 (HSWA) and 1986, the Federal Facilities Compliance Act of 1992, and the Land Disposal Program Flexibility Act of 1996.</p> <p>Solid Waste Disposal Facility Criteria (40 CFR 257 - 258)</p> <p>Standards for Identification and Listing of Hazardous Waste (40 CFR 261)</p> <p>Standards Applicable to Generators of Hazardous Waste (40 CFR 262)</p> <p>Standards Applicable to Transporters of Hazardous Waste (40 CFR 263)</p> <p>Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities (40 CFR 264)</p> <p>Manifesting, Record Keeping, and Reporting Requirements (40 CFR 264.70 to 264.77)</p> <p>Releases from Solid Waste Management Units (40 CFR 264.90 to 264.101)</p> <p>Closure and Post Closure Requirements (40 CFR 264.110 to 264.120)</p> <p>Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage and Disposal Facilities (40 CFR 265)</p> <p>Land Disposal Restrictions (40 CFR 268)</p>	<p>Enacted to provide control of hazardous waste by imposing management requirements on generators and transporters of hazardous waste and upon owners and operators of treatment, storage and disposal (TSD) facilities. Also set forth a framework for management of non-hazardous waste. Focuses only on active or future facilities. HSWA requires phasing out land disposal of hazardous waste.</p> <p>Regulations apply to owners and operators of facilities that treat, store or dispose of solid wastes</p> <p>Provides criteria for identification of hazardous and solid wastes.</p> <p>Regulates the manifesting, pre-transport requirements, and record keeping and reporting for hazardous waste generators.</p> <p>Establishes standards that apply to persons transporting hazardous waste within the United States if the transportation requires a manifest under RCRA.</p> <p>Regulations apply to owners and operators of facilities that treat, store, or dispose of hazardous waste through the use of surface impoundments, waste piles, incinerators, land treatment units, and landfills.</p> <p>These standards apply to owners and operators of all facilities which treat, store or dispose of hazardous wastes</p> <p>Regulations apply to owners or operators of hazardous waste treatment, storage or disposal facilities.</p> <p>Facility owner or operator must close a hazardous waste facility in a way that minimizes the need for further maintenance and maximizes the protection of human health and the environment.</p> <p>Regulations apply to owners and operators of facilities that treat, store, or dispose of hazardous waste.</p> <p>Identifies hazardous wastes that are restricted from land disposal and defines those limited circumstances under which an otherwise prohibited waste may continue to be land disposed.</p>	<p>Applies to active hazardous and solid wastes including facilities that treat, store and dispose of these materials as well as generators and transporters of hazardous wastes.</p> <p>Will be applicable if site activities are analogous to solid waste facility activities.</p> <p>Will be applicable for identifying hazardous wastes.</p> <p>Will be applicable if hazardous waste is generated at a site.</p> <p>Will be applicable if hazardous waste is disposed off site.</p> <p>Will be applicable if site activities are analogous to hazardous waste facility activities.</p> <p>Will be applicable if site activities are analogous to hazardous waste facility activities.</p> <p>Will be applicable if solid waste is stored at a site.</p> <p>Will be applicable upon the closure and post closure of a hazardous waste facility.</p> <p>Will be applicable if site activities are analogous to hazardous waste facility activities.</p> <p>Will be applicable depending on the type of waste generated at the site.</p>

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<p><b>Resource Conservation and Recovery Act (RCRA) of 1976</b></p> <p>Technical Standards and Corrective Action Requirements for Owners and Operators of Underground Storage Tanks (40 CFR 280)</p>	<p>Establishes regulations relating to underground storage tanks (UST) including: performance standards; spill control; corrosion protection; record keeping and reporting; release detection; environmental investigations of releases; corrective actions; and closure of UST systems.</p>	<p>Will be applicable if underground storage tanks are or were present at a site and if a petroleum release is present. Also provides for environmental assessment at closure of UST systems.</p>
<p><b>Safe Drinking Water Act (SDWA) of 1974</b></p> <p>42 U.S.C. § 300f et seq. as amended in 1986</p> <p>National Primary Drinking Water Regulations and Implementation (40 CFR 141 and 142)</p> <p>National Secondary Drinking Water Standards (40 CFR 143)</p> <p>Underground Injection Control Program (40 CFR 144 to 148)</p>	<p>Established to protect the quality of drinking water in the United States. Focuses on all waters actually or potentially designed for drinking use, whether from above ground or underground sources. The Act authorized EPA to establish safe standards of purity and required all owners or operators of public water supply systems to comply with primary (health-related) standards.</p> <p>Establishes maximum contaminant levels (MCLs) which are health risk based standards for public water systems.</p> <p>Establishes welfare-based secondary standards for public water systems.</p> <p>Assures that Underground Injection will not endanger drinking water sources. Provides regulations governing the use of underground injection wells including: identification of the classifications of injection wells; and the permitting, construction, operation, monitoring, testing, and reporting requirements. Also provides requirements for plugging of injection wells.</p>	<p>May be applicable, relevant or appropriate at sites where waters that are used or may potentially be used as drinking water supplies are impacted or threatened.</p> <p>Will be applicable at the distribution point (i.e., at the tap). Will be relevant and appropriate for groundwater cleanup at sites where potential drinking water sources (aquifers) are impacted.</p> <p>Will be applicable at the distribution point (i.e., at the tap).</p> <p>Will be applicable if underground injection of liquids or air is conducted as part of a site remedy.</p>
<p><b>Toxic Substances Control Act (TSCA) of 1976</b></p> <p>15 U.S.C. § 2601 et seq.</p>	<p>Enacted to give EPA the ability to track industrial chemicals currently produced or imported into the United States. EPA screens these chemicals and may require reporting or testing of those that pose an environmental or human-health hazard. EPA may ban the manufacture and import of those chemicals that pose an unreasonable risk.</p>	<p>Will be applicable if site activities involve handling of toxic substances such as polychlorinated biphenyls (PCBs) or remediation of these substances.</p>



**TABLE 1  
KANSAS POTENTIALLY APPLICABLE RELEVANT AND APPROPRIATE  
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<b>Citation</b>	<b>Description</b>	<b>Comment</b>
<b>Ambient Air Quality Standards and Air Pollution Control</b>  K.A.R. 28-19-1 to 28-19-801	Regulates air emissions from processing operations, indirect heating equipment, and incinerators. Establishes requirements for Attainment and Non-Attainment Areas. Establishes requirements for Stack Heights. Restricts open burning.	Will be applicable if a remedy results in the release of contaminants to the air.
<b>Asbestos Control</b>  K.A.R. 28-50-1 to 28-50-14	Established the requirements for licensing of businesses and examination and certification of asbestos workers. Established requirement for notification of asbestos projects. Establishes work practices for asbestos projects. Establishes rules for disposal of asbestos containing materials.	Will be applicable if asbestos is handled or removed from a site or encapsulated.
<b>Agricultural Chemicals, Commercial Fertilizers, Anhydrous Ammonia, and Chemigation</b>  K.A.R. 4-1-1 to 4-1-17, K.A.R. 4-4-1 to 4-4-984, K.A.R. 4-10-1 to 4-10-17, and K.A.R. 4-20-1 to 4-20-15	Requires labeling and registration of agricultural chemicals. Provides regulations for storage and secondary containment, transportation and record keeping for commercial fertilizers and anhydrous ammonia. Requires permitting and certification of operators of chemigation equipment.	Will be applicable if agricultural chemicals, commercial fertilizers or anhydrous ammonia are used at site. Will be applicable if chemicals or animal wastes are applied by chemigation.
<b>Construction, Operation, Monitoring and Abandonment of Salt Solution Mining Wells</b>  K.A.R. 28-43-1 to 28-43-11	Regulates the construction, operation, monitoring, testing and abandonment of salt solution mining wells.	Will be applicable if salt solution mining wells are present.
<b>Emergency Planning and Right-to-Know</b>  K.A.R. 28-65-1 to 28-65-4	Designated to help local communities protect public health, safety and the environment from chemical hazards. Enables communities to prepare to respond to unplanned releases of hazardous substances. Requires facilities at which hazardous substances are present to report the presence of these materials to emergency responders. Requires companies to report the release of hazardous substances.	Will be applicable if hazardous chemicals are stored or used at a site.
<b>Environmental Use Controls</b>  K.S.A. 65-1,221 to 65-1,235	An environmental use control "means an institutional control or administrative control, a restriction, prohibition or control of one or more uses of, or activities on, a specific property, as requested by the property owner at the time of issuance, to ensure future protection of public health and the environment when environmental contamination which exceeds department standards for unrestricted use remains on the property following the appropriate assessment and/or remedial activities as directed by the department pursuant to the secretary's authority".	These restrictions are strictly voluntary as the landowner applies for the restriction to their property to mitigate the risk posed to human health and the environment from contamination at their property (in lieu of active remediation).
<b>Explosive Materials</b>  K.A.R. 22-4-1 to 22-4-4	Requires all contractors to obtain explosive storage site permits before moving, storing or using any explosives or blasting agents at any job site within the state.	Will be applicable if explosives or blasting agents are used or stored at a site.

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<b>Hazardous Waste Management Standards and Regulations</b>  K.A.R. 28-31-1 to 28-31-16	Identifies the characteristics and listing of hazardous waste. Prohibits underground burial of hazardous waste except as granted by EPA or KDHE. Establishes restrictions on land disposal. Establishes standards for generators or transporters of hazardous waste. Establishes standards for hazardous waste storage, treatment and disposal facilities.	Will be applicable if hazardous wastes are present at a site.
<b>Hydrocarbon Storage Wells and Well Systems</b>  K.A.R. 28-45-1 to 28-45-11	Establishes a system for permitting of hydrocarbon storage wells. Establishes requirements for construction, operation and monitoring, and plugging of hydrocarbon storage wells.	Will be applicable if hydrocarbon storage wells are present at a site.
<b>Kansas Board of Technical Professions</b>  K.A.R. 66-6-1 through 66-14-12	Establishes the requirements for licensing of engineers, land surveyors, geologists and architects.	Will be applicable if the services of a geologist, engineer or land surveyor are required for site investigations or remediation.
<b>Kansas Drycleaner Environmental Response Act</b>  K.A.R. 28-68-1 to 28-68-9	Enacted to provide funds to assist with assessment and corrective action of former and existing drycleaner facilities. Requires registration of drycleaning facilities and compliance with waste management measures.	May be applicable if a drycleaner operated onsite.
<b>Kansas Historic Preservation Act</b>  K.A.R. 118-3-1 to 118-3-16	Provides for the protection and preservation of sites and buildings listed on state or federal historic registries.	Will be applicable if a site or building is listed on the state or federal historic registry and if activities requiring permitting are initiated at a site.
<b>Kansas Water Appropriations Act</b>  K.A.R. 5-1-1 through 5-10-6 and K.A.R. 5-50-1 to 5-50-8	Establishes the requirements for obtaining, maintaining and transferring water appropriations.	Will be applicable if water appropriations are required for groundwater remediation.
<b>Mined Land Reclamation</b>  K.A.R. 47-16-1 to 47-16-11	Allows for the reclamation of mined land and associated waters.	Will be applicable if mined land or associated waters are to be reclaimed.
<b>Non-Game, Threatened or Endangered Species</b>  K.A.R. 115-15-1 to 115-15-4	Identifies Threatened and Endangered Species	Will be applicable if any of the identified species are present at a site.
<b>PCB Facility Construction Permit Standards and Regulations</b>  K.A.R. 28-55-1 to 28-55-5	Establishes the requirement for permitting of facilities constructed for the treatment, storage or disposal of materials containing polychlorinated biphenyls (PCBs). Establishes standards for PCB facilities.	Will be applicable if treatment, storage or disposal of materials containing PCBs occurs.
<b>Pesticides</b>  K.A.R. 4-13-1 to 4-13-65	Requires licensing of pesticide businesses and certification of persons that apply pesticides.	Will be applicable if pesticides are present at a site or application of pesticides occurs.

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<p><b>Petroleum Products Storage Tanks</b> K.A.R. 28-44-1 to 28-44-29</p>	<p>Provides requirements for permitting of the installation and operation of underground storage tanks (USTs). Provides requirements for design and construction of storage tanks. Provides a system for licensing contractors who install and test USTs. Requires implementation of methods for detecting releases and reporting releases from USTs.</p>	<p>Will be applicable if petroleum storage tanks are or were present at a site.</p>
<p><b>Radiation</b> K.A.R. 28-35-1 to 28-35-363</p>	<p>Regulations require registration of radiation producing devices and licensing of sources of radiation. Provides standards for protection against radiation. Provides requirements for industrial radiographic operations and wireline and subsurface tracer studies.</p>	<p>Will be applicable if radiation producing devices or sources of radiation are present at or are used at a site.</p>
<p><b>Solid Waste Management</b> K.A.R. 28-29-1 to 28-29-121 and K.A.R. 28-29-2101 to 28-29-2113</p>	<p>Provides standards for management of solid wastes. Establishes administrative procedures. Establishes the requirement for development and submittal of Solid Waste Management Plans.</p>	<p>Will be applicable if solid waste is generated, stored or disposed at a site.</p>
<p><b>Spill Reporting</b> K.A.R. 28-48-1 to 28-48-2</p>	<p>Requires reporting of unpermitted discharges or accidental spills. Requires that containment and immediate environmental response measures be implemented. Also provides for technical assistance for mercury-related spills.</p>	<p>Will be applicable if unpermitted discharges or accidental spills occur at a site.</p>
<p><b>Underground Injection Control Regulations</b> K.A.R. 28-46-1 to 28-46-44</p>	<p>Provides regulations governing the use of underground injection wells including: identification of the classifications of injection wells; and the permitting, construction, operation, monitoring, testing, and reporting requirements. Also provides requirements for plugging of injection wells.</p>	<p>Will be applicable if the remedy involves the injection of fluids or air into the subsurface.</p>
<p><b>Underground Storage, Disposal Wells and Surface Ponds</b> K.A.R. 28-13-1 to 28-13-9</p>	<p>Regulates the construction and use of underground storage reservoirs, disposal wells and surface ponds for the confinement, storage and disposal of industrial fluids including but not limited to brine. Also pertains to removal of material from surface ponds upon abandonment. Does not include regulations pertaining to oil field activities.</p>	<p>Will be applicable if underground reservoirs, disposal wells or surface ponds are used for storage or disposal of industrial fluids at a site. Will be applicable if use of a surface pond is discontinued.</p>
<p><b>Voluntary Cleanup and Property Redevelopment Program</b> K.A.R. 28-71-1 to 28-71-12</p>	<p>Provides a mechanism for property owners, facility operators, prospective purchasers, and local governments to voluntarily address contaminated properties with technical and regulatory guidance from KDHE. Identifies remedial standards for cleanup of environmental media. Establishes that groundwater cleanup levels shall be based on the most beneficial use of the groundwater (i.e., current and future use).</p>	<p>May be applicable if a site meets the criteria for acceptance into the Voluntary Cleanup Program. Remedial standards established under KAR 28-71-11 are relevant and appropriate for all other sites being managed under KDHE oversight.</p>

**TABLE 1  
KANSAS POTENTIALLY APPLICABLE RELEVANT AND APPROPRIATE  
REQUIREMENTS**

<b>Citation</b>	<b>Description</b>	<b>Comment</b>
<p><b>Water Pollution Control</b>  K.A.R. 28-16-1 to 28-16-154</p>	<p>Provides regulation of sewage discharge. Establishes pre-treatment standards for industry. Designates uses of rivers and streams. Establishes River Basin Quality Criteria and Surface Water Quality Criteria. Provides for the establishment of Critical Water Quality Management Areas.</p>	<p>Will be applicable if water is to be discharged to state waterways.</p>
<p><b>Water Well Contractor's License; Water Well Construction and Abandonment</b>  K.A.R. 28-30-1 to 28-30-10</p>	<p>Establishes the requirements for licensing of drillers. Regulates drilling activities including the construction of wells.</p>	<p>Will be applicable if drilling and/or well construction or abandonment is conducted at a site.</p>

**TABLE 1  
TO BE CONSIDERED**

<b>Citation</b>	<b>Description</b>
Kansas Department of Health and Environment (KDHE), Bureau of Environmental Remediation (BER), Risk Based Standards for Kansas, RSK Manual, March 1, 2003, as amended.	Compiles risk-based cleanup screening goals for contaminants in soil and groundwater
Evaluating Future Land Use, KDHE BER Policy #BER-RS-005.	Future land use influences the types and frequencies of exposures that may occur to any residual contamination remaining on the site and therefore must be considered in making corrective action decisions.
Recommended Remedial Levels for Nitrate in Soil, KDHE BER Policy #BER-RS-012.	Addresses nitrate and ammonia contamination in the soil from point sources of contamination.
Investigation and Remediation of Salt (Chloride)-Impacted Soil and Groundwater, KDHE BER Policy #BER-RS-013A	Provides information on methods for investigating, evaluating and remediating soil and ground water contaminated with brine or salt.
Consideration for Remedial Standards, KDHE BER Policy #BER-RS-033.	Identifies remedial standards and situations where they should be used.
Soil Clean-up Levels for Total Petroleum Hydrocarbons, KDHE BER Policy #BER-RS-041.	Establishes Total Petroleum Hydrocarbon (TPH) human health and environmental risk-based actions levels consistent with the procedures adopted within the Risk-Based Standards for Kansas (RSK) manual.
Monitored Natural Attenuation, KDHE BER Policy #BER-RS-042.	Provides further clarification of additional KDHE-BER requirements to the guidance on monitored natural attenuation provided by EPA Directive 9200.4-17P.
Considerations for Groundwater Use and Applying RSK Standards to Contaminated Groundwater KDHE BER Policy #BER-RS-045.	Establishes a mechanism for consistency across BER programs in protecting public health and the environment, in addition to protection of ground water resources of the State.
Sediment Policy, KDHE BER Policy #BER-ARS-045	Provides a consistent definition and assessment approach for contaminated sediment sites in Kansas.
Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA, EPA540-G-89-004, October 1988.	Provides the methodology that the Superfund program uses to characterize the nature and extent of risk posed by uncontrolled hazardous wastes sites and for evaluating potential remedial alternatives.
Guidance for Quality Assurance Project Plans, EPA240-R-02-009, December 2002.	Describes the Quality Assurance Project Plan as four basic element groups covering project management, data generation and acquisition, assessment and oversight, and data validation and useability.
Guidance for the Data Quality Objectives Process, EPA600-R-96-055, August 2000.	Provides a systematic planning process to develop acceptance or performance criteria for collection, evaluation, or use of environmental data.
Risk Assessment Guidance for Superfund, Volume I, Part A EPA540-1-89-002, December 1989 Part B EPA540-R-92-003, December 1991 Part C EPA540-R-92-004, December 1991 Part D EPA540-R-97-033, December. 2001 Part E EPA540-R-99-005, July 2004.	Provide guidelines for conducting a baseline risk assessment.
Development and Evaluation of Consensus-Based Sediment Quality Guidelines for Freshwater Ecosystems, 2000, MacDonald, D.D , C.G. Ingersoll, and T.A. Berger. , <i>Archives of Environmental Contamination and Toxicology</i> 39:20-31.	Identifies Threshold Effect Concentration (TEC) to be used to assess impacts to sediment.
Ground-Water Sampling Guidelines for Superfund and RCRA Project Managers, EPA542-S-02-001, May 2002.	Identifies methods for sampling groundwater.
Remedial Design/Remedial Action Handbook, EPA540-R-95-059, June 1995.	Provides an overview of the remedial design and remedial action processes.
Management of Remediation Waste under RCRA, EPA530-F-98-026, October 1998.	Describes management of contaminated environmental media, etc.
Best Management Practices (BMPs) for Soils Treatment Technologies, EPA530-R-97-007, May 1997.	Describes various BMPs to be implemented during remedy implementation.

**TABLE 1  
TO BE CONSIDERED**

<b>Citation</b>	<b>Description</b>
Storm Water Management for Construction Activities EPA832-R-92-005, October 1992.	Describes storm water pollution prevention measures.
Guide to Discharging CERCLA Aqueous Wastes to Publicly Owned Treatment Works, EPA OSWER Directive 9330.2- 13FS, March 1991.	Describes applicability and acceptable means of conveyance to a POTW.
Use of Monitored Natural Attenuation at Superfund, RCRA Corrective Action, and Underground Storage Tank Sites, EPA OSWER Directive 9200.4-17P, April 21, 1999.	Describes EPA's policy regarding the use of monitored natural attenuation for the remediation of contaminated soil and groundwater at sites administered by EPA's Office of Solid Waste and Emergency Response.

<b>TABLE 2 EXAMPLE SUMMARY OF ARARs AND TBCs PERTINENT TO REMEDY</b>			
<b>Citation</b>	<b>Description</b>	<b>Category</b>	<b>Summary</b>
<b>Chemical-Specific ARARs</b>			
K. A. R 28-16	Water Pollution Control	Applicable	Designates uses of rivers and streams. Provides numeric surface water quality standards for various use categories.
40 CFR 141, 142 and 143	National Primary and Secondary Drinking Water Regulations and Standards	Relevant and Appropriate	Florence Limestone Aquifer is a drinking water aquifer. To be considered for alluvial and Fort Riley Limestone Aquifers which are not a source of drinking water.
<b>Location-Specific ARARs</b>			
K.S.A. 65-1, 221 to 1,235	Environmental Use Controls	Applicable	Legal mechanism and associated application process for imposing restrictions, prohibitions and conditions on land use for property with residual contamination at levels prohibiting unrestricted use.
16 U.S.C. § 460	Flood Control Act of 1944	Potentially Applicable	Portions of the Site are within the 100-year flood plain. Design will be such that the construction is beyond the 100-year flood elevation.
<b>Action-Specific ARARs</b>			
40 CFR 61	National Emission Standards for Hazardous Air Pollutants (NESHAPS)	Relevant and Appropriate	Remedial actions are not anticipated to result in substantial emissions of contaminants to the air.
40 CFR 122	National Pollutant Discharge Elimination System (NPDES)	Applicable	Treated water is discharged to the West Branch Walnut River through an NPDES permit; if permit not renewed, then re-designate relevant and appropriate. Remedial design to address storm water discharge requirements.
40 CFR 264.228(a)(2) and (b)	Surface Impoundments: Closure and Post-Closure Care	Relevant and Appropriate	Listed hazardous wastes disposed in surface impoundment; has historically been treated as a RCRA-regulated hazardous waste impoundment.
40 CFR 268	Land Disposal Restrictions	Potentially Applicable	Any contained-in environmental media subject to RCRA. Proposed remedial alternative not anticipated to generate hazardous waste or trigger land disposal restrictions.
<b>TBCs</b>			
RSK Manual	Risk-Based Standards for Kansas	To Be Considered	Compiles risk-based cleanup screening goals for contaminants in soil and groundwater.
Threshold Effect Concentrations	Development and Evaluation of Consensus-Based Sediment Quality Guidelines for Freshwater Ecosystems	To Be Considered	Identifies TEC composite goals to be used to assess impacts to sediment.