Approved: February 22, 2000
Date

MINUTES OF THE HOUSE COMMITTEE ON ENVIRONMENT.

The meeting was called to order by Chairperson Joann Freeborn at 3:30 p.m. on February 1, 2000 in Room 423-S of the Capitol.

All members were present except: Rep. Clay Aurand - excused
Rep. Melvin Minor - excused

Committee staff present: Raney Gilliland, Kansas Legislative Research Department
Mary Torrence, Revisor of Statute's Office
Mary Ann Graham, Committee Secretary

Conferees appearing before the committee: David L. Pope, Chief Engineer-Director, Division of Water Resources, Kansas Department of Agriculture, 901 S. Kansas Ave., 2nd Floor, Topeka, KS 66612-1311
Dr. Ron Hammerschmidt, Director, Division of Environment, KDHE, Forbes Field 740, Topeka, Kansas 66620-0001
Karl Mueldener, Director, Bureau of Water, Division of Environment, KDHE, Forbes Field 283, Topeka, Kansas 66620-0001
Gary Blackburn, Director, Bureau of Environmental Remediation, Division of Environment, KDHE, Forbes Field 740, Topeka, Kansas 66620-0001

Others attending: See Attached Sheet

Chairperson Joann Freeborn called the meeting to order at 3:30 p.m. She welcomed Farm Bureau members who are with the "Day at the Capitol" group, attending the meeting. She asked if there were any bill requests at this time.

Rep. Carl Holmes requested a bill prohibiting the transfer of water for a use in another state if the use is a prohibited use under the other state's law. Rep. Dan Johnson made a motion the bill be introduced. Rep. Henry Helgerson seconded the motion. Motion carried.

Rep. Ted Powers made a motion a bill be introduced concerning confined feeding facilities for swine; prohibiting issuance of permits for such facilities located in certain areas; requiring the secretary of Health and Environment to adopt certain standards applicable thereto. Rep. Tim Tedder seconded the motion. Motion carried.

Rep. Laura McClure made a motion a bill be introduced providing for appropriate state agencies to adopt rules and regulations implementing groundwater management district policies and providing for state agencies to delegate enforcement authority to GMD's through memoranda of understanding. Rep. Tom Sloan seconded the motion. Motion carried.

Rep. Vaughn Flora made a motion a bill be introduced prohibiting the sale of motor vehicle fuels containing methyl tertiary-butyl ether (MTBE). Rep. Dan Johnson seconded the motion. Motion carried.

Dennis Morrice, Kansas Soybean Association requested a Resolution urging governmental entities to use biodiesel in their diesel-powered fleet vehicles. Rep. Dan Johnson made a motion the bill be introduced. Rep. Becky Hutchins seconded the motion. Motion carried.

Rep. Joann Freeborn requested a bill concerning solid waste; relating to fees and charges for the collection and disposal thereof. Rep. Dan Johnson made a motion the bill be introduced. Rep. Henry Helgerson seconded the motion. Motion carried.

The Chairperson announced that committee minutes of meetings January 10, 11, 18, and 20, have been distributed for members to review. A vote will be taken in the next committee meeting to approve them.

Chairperson Freeborn welcomed David Pope, Chief Engineer-Director, Division of Water Resources, Kansas Department of Agriculture. Mr. Pope appeared before the committee to discuss the interstate transfer of water. Kansas water law does provide for water to be diverted for transported for use in another state, if it complies with certain conditions. This provision if found in K.S.A. 82a-726, and it requires any person intending to divert water transport to another state to have a permit from the Chief Engineer. It further requires that the Chief Engineer approve the permit if all provisions of the Water Appropriation Act (K.S.A. 82a-701 et seq.), the Water Transfers Act (K.S.A. 82a 1501 to 1506), and any other state law pertaining to such diversion, transportation and use of water, are met. Approval also requires terms, conditions and limitations, as necessary, to protect the public interest. The law also has provisions to protect the health and safety of Kansans. (See attachment 1) Please refer to the attachment for the law concerning transport of water to another state (K.S.A. 82a-726) Questions and discussion followed.

Chairperson Freeborn welcomed Dr. Ron Hammerschmidt, Director, Division of Environment, Kansas Department Health and Environment. Dr. Hammerschmidt appeared before the committee to address air issues related to the use of MTBE (Methyl tertiary-butyl ether). MTBE is an octane enhancer and is used to make gasoline burn cleaner and produce less air pollution. It is soluble in water and has been found in soil and groundwater near leaking storage tanks, along with benzene, toluene, and other contaminants. (See attachment 2)

The Chairperson welcomed Karl Mueldener, Director, Bureau of Water, Kansas Department Health and Environment. Mr. Mueldener addressed water issues related to MTBE. Since 1996, 27,935 water samples from public water supplies have been tested for MTBE and the compound has been detected 101 times. The latest round of sampling has shown 18 of the state's 1, 122 public water supplies have had some detect of MTBE in one or more of their sources since 1996. Detected levels of MTBE range from 0.5 to 90 parts per billion. As part of an a petroleum storage tank release investigation, MTBE was detected at levels significantly higher than 90 ppb at one water supply. A treatment system was designed and installed in response to this problem and has effectively removed the MTBE from the water system. (See attachment 2)

The Chairperson welcomed Gary Blackburn, Director, Bureau of Environmental Remediation, Kansas Department Health and Environment. Mr. Blackburn addressed the cleanup project being undertaken to eliminate MTBE from the soil and groundwater, which is only part of the overall clean up project. Kansas Department Health and Environment has worked with owners of the underground storage tanks (USTs)to ensure that all active tanks have been upgraded to the new standards which went into effect in December of 1998. These requirements for USTs will dramatically reduce the number of releases in the future. Additionally, owners of USTs are required to perform routine testing of tanks to detect and eliminate releases quickly. (See attachment 2) Questions and discussion followed.

The Chairperson thanked conferees for their presentations and committee members and guests for their attention. She reviewed the agenda for Thursday, February 3. The committee will be have hearings on **HB2727**, concerning big game and on **HB2751**, concerning solid waste; concerning recycling.

The meeting adjourned at 4:40 p.m. The next meeting is scheduled for February 3, 2000.

# HOUSE ENVIRONMENT COMMITTEE GUEST LIST

DATE: February 1, 2000

| NAME | REPRESENTING |
|---|---|
| Tom Bruno | [redacted] MGA, Inc. |
| William Baker | KS Farm Bureau |
| Byron Woerts | Rep Gordon |
| Michel Puckett | KFB Kearny County |
| Jane Halling | KFB Atchison County |
| Ken Peterson | KS Petroleum Council |
| Charles Benjamin | KNRC/KS Sierra Club |
| Edward Rowe | League of Women Voters/KS |
| Craig Johnson | KFB |
| Gene Ainsworth | KFB |
| Gary Blackburn | KDHE |
| Dan Kahler | Osage County Farm Bur Assoc |
| Judy Martin | Osage Co. FB |
| Wanda Kinney | Osage County F.B. |
| Kent Foster | KFB |
| Ken Penner | KFB |
| Sandy Braden | McDill Cattle & Assoc. |
| Linda Lenz | Brown Co Farm Bureau |
| Brenda Koenig | Sedg Co Farm Bureau |

# HOUSE ENVIRONMENT COMMITTEE GUEST LIST

DATE: February 1, 2000

| NAME | REPRESENTING |
|---|---|
| Gayle Ross | Sedgwick County Farm Bureau |
| John R Markley | Farm Bureau Ed Co. |
| Lori Markley | Ed Co Farm Bureau |
| Jeanne Gabel | REAP |
| STEVE KEARNEY | PMCA |
| Ron Hammerschmidt | KDHE |
| Anne Marie Worley | Rawlins Co. F B |
| Maureen Downing | Thomas Co. FB |
| Keith Downing | Thomas Co FB |
| Kay McKenzie | |
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THE STATE OF KANSAS

KANSAS DEPARTMENT OF AGRICULTURE
Jamie Clover Adams, Secretary of Agriculture

DIVISION OF WATER RESOURCES
David L. Pope, Chief Engineer

# TESTIMONY FOR HOUSE ENVIRONMENT COMMITTEE
# WATER TRANSFERS

**by**

**David L. Pope**
**Chief Engineer-Director**
**Division of Water Resources**
**Kansas Department of Agriculture**

**February 1, 2000**

Madam chairman, in response to a request from the Committee, I am here to discuss the interstate transfer of water.

Kansas water law does provide for water to be diverted for transported for use in another state, if it complies with certain conditions. This provision is found in K.S.A. 82a-726, and it requires any person intending to divert water transport to another state to have a permit from the Chief Engineer. It further requires that the Chief Engineer approve the permit if all provisions of the Water Appropriation Act (K.S.A. 82a - 701 *et seq.*), the Water Transfers Act (K.S.A. 82a 1501 to 1506), and any other state law pertaining to such diversion, transportation and use of water, are met. Approval also requires terms, conditions and limitations, as necessary, to protect the public interest.

The law also has provisions to protect the health and safety of Kansans. The law requires that an express condition be added to these water rights that says, "should any such water be necessary to protect the public health and safety of the citizens of this state, such application may be suspended, modified or revoked by the chief engineer."

Historically, permits have been issued for use of water in an adjacent state, but this has occurred infrequently. Information compiled by the Division of Water Resources, from the water rights computer data base, indicates that 12 entities have multi-state use involving 36 water rights. In each case, there is some operational connection across state lines where water is used in both states. Each of these operational connections are either municipal systems or rural water districts that have boundaries that extend beyond state lines, or local farm units that have land ownership in an adjacent state.

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2-1-00
Attachment 1

The statute was amended in 1984 in response to a United States Supreme Court case that determined that groundwater is subject to the commerce clause of the United States Constitution, and that applicants for a permit to appropriate water need to be treated equally, even if one is proposing to divert water for use in another state. The court included an exception that apparently would allow the proposed transfer to be denied, or revoked in the future, if the water proposed to be transported out of state is necessary to protect the health and safety of the state where the water is to be diverted from. Prior to 1984, Kansas allowed the transport of water only to states with a reciprocating agreement that allows water from that state to be transported into Kansas.

The Division of Water Resources has provided this summary of interstate water transfers for your information. Also, please refer to the attachment for the law concerning transport of water to another state (K.S.A. 82a-726). I will be happy to respond to any questions you might have regarding this topic.

K.S.A. 82a-726

K.S.A. 82a-726. Diversion and transportation of water for use in another state; approval by chief engineer; conditions. Any person intending to divert and transport water produced from a point or points of diversion located in this state for use in another state, shall make application to the chief engineer of the division of water resources of the state board of agriculture for a permit to appropriate water for beneficial use or file an application for change in point of diversion, place of use, type of use or any combination thereof. If the chief engineer of the division of water resources finds that the diversion and transportation of such water complies with the Kansas water appropriation act, and amendments thereto, the provisions of K.S.A. 82a-1501 to 82a-1506, inclusive, and amendments thereto, and any other state law pertaining to such diversion, transportation and use of water, the chief engineer shall approve such application upon such terms, conditions and limitations that the chief engineer shall deem necessary for the protection of public interest, including an express condition that should any such water be necessary to protect the public health and safety of the citizens of this state, such approved application may be suspended, modified or revoked by the chief engineer for such necessity. (History: L. 1976; amended 1984.)

For Immediate Release
January 21, 2000

Contact: Sharon Watson
785-296-1529

# KDHE Responds to Concerns Over MTBE

Recent news reports about the gasoline additive MTBE is causing undue alarm for Kansas residents. The Kansas Department of Health and Environment (KDHE) has received many questions about how methyl tertiary-butyl ether (MTBE) is contaminating the state's water supply. Some news reports have left the impression that this issue is going unaddressed. That is not the case in Kansas.

Kansas is ahead of many states in that KDHE laboratories first detected MTBE in Kansas water samples as early as 1985. Since 1996, the KDHE labs have routinely monitored MTBE compounds in public water supplies while monitoring volatile organic compounds, commonly called VOCs. KDHE staff began studying how to remove MTBE from the water, and treatment systems were successfully designed and put into place in 1997. These were developed by consulting engineers along with KDHE staff. The systems have led to a 94-100 percent reduction of MTBE contamination from public water supply systems.

MTBE is an octane enhancer and is used to make gasoline burn cleaner and produce less air pollution. It is soluble in water and has been found in soil and groundwater near leaking storage tanks, along with benzene, toluene, and other contaminants.

Even though there is no regulatory standard established for MTBE in terms of an unsafe level in drinking water or human exposure, in 1997 EPA issued a health advisory level for MTBE at 20-40 ppb (parts per billion). KDHE considers any detection of MTBE at a water supply a reason for investigation and possible corrective action to protect individuals from

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Attachment 2

exposure and possible health risk. Actions can range from requiring the affected well to be shut down, blending it with other wells, or in severe cases, building treatment systems to remove MTBE from the water. At this time, no water supplies are delivering water with greater than 20 ppb of MTBE in the water, based on current test results.

Since 1996, 27,935 water samples from public water supplies have been tested for MTBE and the compound has been detected 101 times. The latest round of sampling has shown 18 of the state's 1,122 public water supplies have had some detect of MTBE in one or more of their sources since 1996. Detected levels of MTBE range from 0.5 to 90 ppb. As part of an a petroleum storage tank release investigation, MTBE was detected at levels significantly higher than 90 ppb at one water supply. A treatment system was designed and installed in response to this problem and has effectively removed the MTBE from the water system.

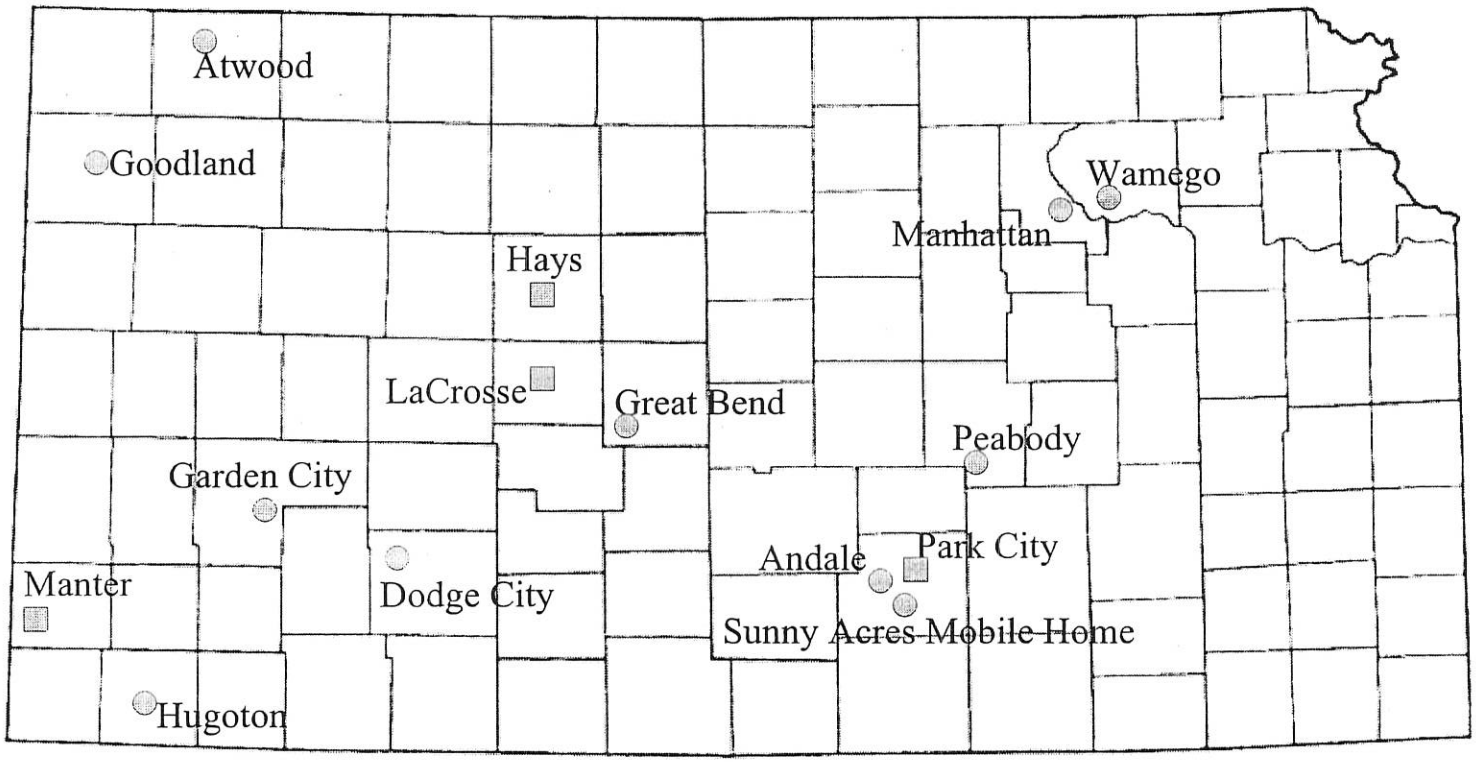
To date, KDHE has installed treatment systems to remove MTBE at three public water supplies and is planning to install a fourth treatment system. In contrast to recent news reports, the treatment systems have been very effective in removing the contaminant. The treatment units are either granular activated carbon or air strippers which are common technologies used for removal of other petroleum compounds from water. The treatment units are paid for by the Underground Storage Tank Trust Fund, and have been installed with minimal cost to the affected water supplies.

Water treatment is only part of an overall clean up project undertaken to eliminate MTBE from the soil and groundwater. KDHE has worked with owners of the underground storage tanks (USTs) to ensure that all active tanks have been upgraded to the new standards which went into effect in December of 1998. These requirements for USTs will dramatically reduce the number of releases in the future. Additionally, owners of USTs are required to perform routine testing of

tanks to detect and eliminate releases quickly.

When releases are discovered, the extent of contamination is determined and clean up efforts are undertaken to eliminate the type of impacts other states are seeing. Those actions include additional monitoring of public and private water supplies in the areas where releases are detected.

# MtBE Impacted Public Supply Wells



# Findings of Kansas MTBE Investigation

The Kansas Department of Health and Environment (KDHE) Storage Tank Section has included Methyl tert Butyl Ether (MTBE) as a chemical of concern for UST sites since 1991. At that time, MTBE was not considered to be a chemical of concern by EPA because little was known about its health effects. The decision to require analyses for MTBE resulted from the compound being frequently discovered in groundwater samples obtained from UST sites which were analyzed by KDHE's laboratory. As data was collected, it became clear that MTBE plumes were very common and were usually found further down-gradient of the typical Benzene toluene ethyl benzene xylene (BTEX) plume. The philosophy of the Kansas UST program has been that all water consumed by the public should be below detection levels for all petroleum constituents, regardless of what data was available about the health effects of the compound. As a result, KDHE has considerable data related to the occurrence of MTBE at over 900 UST sites, sixty of which are in active remediation.

Until recently, many believed that the use of MTBE-enhanced gasoline was limited to air quality non-attainment areas, so few expected to find MTBE contamination to be widespread. The data from Kansas confirms that the compound has been used as an octane booster for many years. Analytical data from 818 of the sites, being monitored in Kansas, revealed that MTBE contamination was present at 88% of the sites. A survey of data confirms that MTBE is present at sites where fuel has not been stored since before 1989.

**The Question of False Positives**

Several articles have raised the question of false positives with GC methods for detecting MTBE. The initial review of the Kansas data does not reveal an appreciable difference in the percentage of sites where MTBE was discovered using method 8021, a GC method, as compared to sites where method 8260, a GC/MS method, was used. KDHE is currently working on additional confirmation of the 8021 results, however, our data indicates that MTBE was detected at over 90% of the 161 sites where samples were analyzed by method 8260.

**Database Survey Results**

A survey of 700 sites where MTBE was initially detected, revealed that 27% of the sites have decreased to non-detect levels over the sampling period without active remediation. An evaluation of 60 MTBE remedial sites reveals that most of the traditional technologies are somewhat effective in reducing MTBE concentrations. Kansas has observed many different types of remedial efforts involving soil vapor extraction, air sparging, pump and treat, and Oxygen Release Compound with varying levels of success. A reduction of MTBE to non-detect was achieved at 43% of the sites, with a 90% reduction attained at 23% of the sites. MTBE concentration reductions ranging between 50% and 90% were observed at 12% of the sites and 10% of the sites demonstrated less than a 50% reduction. The concentration of MTBE actually increased at 12% of the sites. The increased MTBE concentration could be the result of an unidentified source.

Sixty six percent of the sites undergoing site remediation experienced a MTBE reduction of greater than 90%. Of sites utilizing a combination of AS/SVE technology, 80% of the sites had a greater than 90% reduction. These preliminary statistics are based on limited evaluation of the technologies and the duration of remediation was not considered. However, when compared to a 27% reduction in monitored only sites, it appears that conventional remedial technologies are successful in reducing MTBE concentrations. KDHE will continue to evaluate efforts to perform MTBE remediation to determine which methods are most effective.

**Kansas Case Incident Studies**

The Kansas Storage Tank Program has always considered protecting public and private water supply wells as the primary driving force for most remediation at UST sites. Despite these efforts, several public wells have been impacted by MTBE. Significant levels of MTBE were recently discovered in two public water supply wells serving a small western Kansas community. The sources of the contamination were gasoline releases which occurred from three service stations located nearby. The MTBE spread over eight tenths of a mile down-gradient to impact the public wells. Despite the fact that the contaminant plume was well defined by a series of zero line monitoring wells, MTBE had migrated under those wells and reached the public wells at a concentration of 1050 ug/l. A 250 gpm tray air stripper was installed at the City's water treatment plant as a temporary measure to reduce MTBE concentrations. Even though no MCL had been established for MTBE, a treatment goal for the temporary system was set at less than 40 ug/l.

The next phase of the MTBE remediation project consisted of the design and installation of a permanent long term treatment system at the public water plant. Two packed air stripping towers, six feet in diameter and 33 feet tall were selected for the project. The manufacturer indicated that each tower would be capable of reducing the highest anticipated contaminant concentrations to non-detect levels to provide redundancy for long term operation. The water treatment demand was 300 gpm during colder months and 450 gpm during the summer. The system successfully treats the influent concentrations of 200-800 ug/l MTBE to below 5 ug/l.

Active source remediation has been underway since 1997 with limited success. MTBE concentrations ranging up to 77,000 ug/l had been encountered in the groundwater near the source. The leading edge of the BTEX and MTBE plume has been defined with a series of down gradient monitoring wells. Additional investigation involved installation of several deeper (70 foot) monitoring wells between the source areas and the

*(Continued on next page)*

public wells. Groundwater data confirmed an extensive MTBE plume. The deeper monitoring wells also confirmed that MTBE had migrated at depths below the shallow wells across the base of the aquifer. A deep monitoring well encountered an MTBE concentration of 1600 ug/l located near a shallow monitoring well which produced a MTBE concentration of 5 ug/l.

In order to minimize the treatment period for the Public Water Supply wells, a more aggressive remedial approach was taken at the sites. Remediation consisting of soil removal and land farm treatment of the contaminated soil was performed within the source areas. After the existing soils of limited permeability were removed, the remaining excavations were filled with washed sorted rock. A cap of clean, low permeability soil was installed to allow a combination of AS/SVE to be utilized. The previous remedial efforts had been hampered by a confining layer which was present immediately above the groundwater which prevented SVE/AS from being effective. Additionally, ORC was installed across the toe of the plume in an attempt enhance bioremediation of the MTBE near the impacted public wells. The ORC treatment has not been evaluated to determine its effectiveness in the treatment of MTBE.

**"Diving Plumes"**

With a specific gravity of 0.740, MTBE contamination should be found near the top of the aquifer. Although MTBE is found at the top of the aquifer near the source, it has also penetrated to the base of the aquifer where the higher permeability materials are located. Since observing this phenomena, several other instances where MTBE has been observed to migrate to the base of the aquifer have been documented. The high solubility of MTBE has enabled it to move rapidly through the groundwater, resulting in large plumes that follow the natural or induced groundwater gradient. Unlike BTEX plumes that radiate down-gradient from the source area and stabilize within a few hundred feet, MTBE has been documented to extend over one mile down-gradient from the source area. An important factor to consider when addressing MTBE sites is not to rely too heavily on shallow monitoring wells especially where deeper, more permeable zones could act as a migration pathway. Since this portion of the aquifer is typically utilized for public and private water wells, there should be increased concern.

**Conclusions**

It is evident that there is more to learn about the behavior of MTBE in the environment and its effects on human health. The data collected by KDHE indicates that MTBE is likely to be discovered in any region even though fuel oxygenates may not have been required. Staff at KDHE are continuing to collect data and to evaluate which remedial methods are effective in remediating MTBE sites.

*Greg Hattan & Gary Blackburn - Bureau of Environmental Remediation*

## FOCUS ON . . the Southeast District Office

The Southeast District Office (SEDO) is located in the state office complex in Chanute. The district includes Lyon, Coffey, Anderson, Linn, Greenwood, Woodson, Allen, Bourbon, Elk, Wilson, Neosho, Crawford, Labette, Chautauqua, Montgomery, and Cherokee counties.

The SEDO is served by a talented and hardworking staff. Environmental sections include air, remediation, water, and waste with staff in each of these sections, and the office has two support staff.

District efforts focus on inspections, complaints, and providing technical service. This district has a variety of facilities and environmental conditions which makes for interesting and challenging opportunities. Facilities include a nuclear power plant, refinery, cement kilns, a hazardous waste incinerator, two coal-fired power plants, several Subtitle D landfills, turkey farms, and a wide variety of small industry.

Environmental conditions present unique challenges. There is very little groundwater, which creates problems with water quality and quantity, especially for small communities. Formation of Public Wholesale Water Supply Districts has helped. In addition to the four existing PWWSDs, there are three in the developmental stage. Rainfall creates inflow/ infiltration problems for the high number of small wastewater treatment plants. Tight clay soils cause problems for individual septic systems and the numerous small streams make siting of confined animal facilities difficult. Historic mining of coal, lead, and zinc, and oil field activity cause a variety of problems from illegal waste disposal to illegal sewage discharges and water quality issues.

Public concerns are varied. One concern is that southeast Kansas is a net importer of both hazardous and solid waste. The burning of hazardous waste and waste fuel has elevated the level of concern about air quality and subsequent health implications. With most of the drinking water coming from surface water, water quality is always an area of concern.

With the variety of facilities and environmental conditions, team work and staff communication is absolutely essential. SEDO staff make a strong effort to support each other, the Topeka office and most importantly, the residents of southeast Kansas.

*David Stutt, District Environmental Administrator*