

UNDERGROUND INJECTION CONTROL SUPPORT NATIONWIDE

KEMRON has provided services to the USEPA relevant to EPA's Office of Water project needs. Our experience spans a wide variety of projects including the implementation and training for underground injection control. The following represent projects completed in support of USEPA's Office of Water.

Support the Implementation of a Drinking Water Academy : KEMRON developed and presented courses for the EPA's Drinking Water Academy on topics including UIC Permitting, Source Water Protection, An Overview of the Safe Drinking Water Act, Introduction to Underground Injection Control, and Class V Injection Well Inspections. KEMRON is responsible for original development of slides and notes, development of concepts for graphics and exercises, and course presentations. Mary Lou Rochotte, a KEMRON Senior Project Manager, has been an author and presenter for the National Drinking Water Academy for six years.

State Implementation Guidance for the Revisions to the UIC Regulations for Class V Injection Wells: KEMRON co-authored the State Implementation Guidance for the Revisions to the Underground Injection Control Regulations for Class V Injection Wells. In addition to the guidance document, the project included development of a PowerPoint training course and presentation of the training nationally to US EPA Regional offices. Materials included text, graphics, fact sheets, frequently asked questions sheets, summary tables and flow charts, new federal forms, a regulatory cross-walk, and question/issue summaries for each training.

UIC Regulations for Class V Wells, A Workshop for Local Officials, US EPA, Region 5: KEMRON developed and presented a training course for Region 5 Direct Implementation states regarding the historic Class V program, existing regulations and changes made through the December 1999 Class V UIC rule. KEMRON was responsible for preparation of the customized course manual, presentations, design and implementation of course evaluation, and summarizing notes of significant questions with corresponding EPA responses.

Class V Implementation Support: KEMRON assisted the US EPA to develop and evaluate potential tools and methods to best manage and regulate Class V Underground Injection Control Wells. KEMRON has assisted in leading workgroup meetings, drafting white papers, evaluating regulatory alternatives, and conducting cross-program regulatory evaluations in support of EPA's Class V well regulatory implementation.

US EPA Headquarters: KEMRON was a team member for a US EPA Class I UIC project that required evaluation of alternatives for municipal wastewater disposal in the State of Florida. KEMRON completed data collection, analysis and summarization for the St. Petersburg area for inclusion in the *Report on the Comparison of Alternatives for Discharging Municipal Wastewater in Florida*, prepared for US EPA, Office of Ground Water and Drinking Water. The project compared environmental and human health risks posed by the operation of Class I UIC wells to other wastewater discharge alternatives in the State of Florida. KEMRON directly coordinated with the Florida Department of Environmental Protection, selected critical UIC and geologic documents to be analyzed and used in the project, and compiled critical statewide UIC standards and failure data relevant to the risk assessment.

KEMRON reviewed and synthesized all available data regarding the St. Petersburg area as it related to the study, including the city's Class I UIC well construction, operation and maintenance data, reuse system and wastewater influent and UIC effluent analytical data, ground water monitoring data, and geologic/hydrogeologic information. KEMRON professionals conducted technical review of the sections of the report prepared by other team members, and provided recommendations for finalization of the report.

USEPA Headquarters: KEMRON assisted the US EPA in development of comprehensive regulatory tracking database for use by Regions and Headquarters in monitoring updates to primacy Underground Injection Control Programs. KEMRON was responsible for identifying key elements of the database, and

providing expertise on regulatory development processes for database design. Presentation materials were developed for EPA to introduce Regions to the database. Additionally technical expertise was provided in reviewing state regulatory packages for technical adequacy and completeness.

KEMRON'S UIC SUPPORT FOR REGULATED ENTITIES

Confidential Chemical Manufacturing Client: KEMRON performed the annual sampling, analysis and data evaluation of an Ohio EPA-required facility deep monitoring well at a former Class I UIC facility. The monitoring well was completed in a zone approximately 4,000 feet below ground surface. Sampling and analyses were performed by KEMRON for 14 years. Analytes primarily included volatile organic compounds, semi-volatile organic compounds, metals and conventionals. Laboratory analytical results and field methodologies were presented in a written report for each event. After several years of monitoring, the project was expanded to include additional data evaluation to assist the client in determining future management of the monitoring well. The data evaluation included a comprehensive quality assurance review of past data, compilation of the full data set for all parameters from 14 years of monitoring, and statistical evaluation of specific analytical results for key compounds that will assist in determining future monitoring strategies. KEMRON's analytical results and data evaluation supported a successful request by the company for termination of monitoring.

Confidential Steel Manufacturing Client: A team of KEMRON scientists and engineers reviewed and updated plans for a steel manufacturing facility that utilizes Class I UIC wells to dispose of spent pickle liquor. The project included modifications to a ground water monitoring plan, waste minimization and treatment plan and waste analysis plan. The substantial revisions and updates were developed to bring the plans into conformance with current state regulations, and to develop and incorporate language to minimize regulatory liability to the client. KEMRON is providing regulatory interpretation services to this client on an on-going basis to assist the facility in responding to inquiries from regulatory entities and advise the client on appropriate steps to ensure regulatory compliance. In support of the client's Class I UIC program, KEMRON has served as a key member of a permit renewal application preparation team, provided internal compliance auditing services, and assisted the client in selecting equipment upgrades, evaluating operational concerns, and made maintenance recommendations to maximize compliance and reduce client environmental liabilities..

Confidential Coal Company: KEMRON was contracted to develop Class V UIC permits for injection of coal reclamation waste waters into two abandoned mines. The mines were formerly owned and operated by another coal company, and were acquired by the client in July 2001. The mines were flooding, and the client was developing and implementing alternatives to manage the waters to protect surface and subsurface water quality. Proposed injection rates were from 25 gpm to 3,000 gpm. Both individual and area UIC permits were prepared by a team of KEMRON scientists and engineers for submission to the Ohio EPA for review and approval.

Confidential Agrichemical Client: KEMRON provided Class I UIC regulatory expertise and operational recommendations to an agrichemical manufacturing client regarding compliance issues identified by the lead regulatory agency. KEMRON reviewed Class I UIC nonhazardous well construction, operation and maintenance information to assist the client in responding to regulator questions and resolve compliance concerns. KEMRON provided written responses for the client's outside counsel's review, and represented the client in regulatory meetings.

Confidential Manufacturing Client: KEMRON performed quality assurance and regulatory/technical adequacy reviews of the No Migration Petition renewal prepared by another consultant for the client's two Class I UIC hazardous waste disposal wells. The wells were used for permanent disposal of K062 waste. KEMRON reviewed the multiple volumes of the Petition document and prepared comments and advised the client of deficiencies and comments anticipated to be generated by US EPA during its review, based on KEMRON's knowledge of UIC regulatory requirements.