

# ENVIRONMENTAL SCIENCES

## CLIENT INFORMATION

Management Engineering Associates, LLC (MEA) has been designated to supply environmental technology services to all Federal agencies in support of environmental mandates. Professional environmental advisory services require a thorough understanding of the sciences and engineering necessary to comply with environmental regulations in an effective manner. Modifications of industrial processes have a marked influence on the nature and level of emissions. Appropriate mitigation planning mandates an understanding of all available control technologies. A primary emphasis of the MEA team is upon creating working environments – industrial complexes and offices – that are healthy and safe. Design depends on strong civil, geotechnical, structural, electrical, mechanical, environmental and industrial engineering expertise.

Services include:

## ENVIRONMENTAL PLANNING SERVICES AND DOCUMENTATION

**Environmental impact statements and assessments under the National Environmental Policy Act:** Data identification, collection, development and interpretation; sampling and analysis; documentation of human health risk and environmental impact evaluations and reports; preparation of expert testimony and development of material for public meetings and public hearings. Services may include surveys to assist Federal agencies in planning and conducting national assessments of wastewater and biosolids.



**Endangered species, wetlands, and other natural resource management plans, studies, and consultations:** Review available reports and management plans; coordinate with U. S. Fish and Wildlife Service; contact state agencies; conduct surveys and report/present findings.

**Archeological, historical, and other cultural resources management plans, studies and consultations:** Conduct resource surveys/studies, evaluate resource data, prepare nominations/reports; prepare Management Plans.

**Economic, technical and risk analysis in support of environmental needs:** Analyze options being considered as environmental actions. Perform data collection and development, analysis of comments, regulatory and economic analysis, feasibility studies, hazard assessments and risk analysis. Subordinate activities encompass:

- ▶ Review of proposed action and supporting analysis
- ▶ Data collection and compilation
- ▶ Alternatives analysis
- ▶ Benefits analysis

**ISO 14000 standards:** Support ISO 14000 certification efforts.

## ENVIRONMENTAL COMPLIANCE SERVICES

**Environmental compliance audits:** Determine all applicable public law and statutes, agency and command regulations/directives and other Federal, state and local regulations and apply as required to conduct audit. Evaluate findings and prepare documentation/reports. Provide presentations.

The MEA team brings experience in conducting both compliance evaluation inspections and performance audit inspections of municipal and industrial facilities under all environmental and safety regulations.



**Compliance management planning:** Develop Management Plans that detail policy, planning, implementation and operation, checking and corrective action, and management review.

Our experience in compliance management planning includes conducting quarterly NPDES compliance meetings, mid-year program review meetings, and end-of-the-year review meetings with state DEQ's and negotiations with state DEQ's on the development of an enforcement policy and procedures for handling NPDES violations under the Clean Water Act.

**Pollution prevention surveys:** Perform pollution prevention surveys; develop pollution prevention plans; establish inventories for hazardous materials; evaluate the economic ramifications and technical feasibility of process changes and recycling alternatives; create databases to track progress in achieving pollution prevention goals.

MEA has been performing pollution prevention surveys for the past six years for a variety of clients. We first perform a detailed analysis of the process or operation. Next, a detailed inventory is prepared that can be used as a baseline for tracking progress. Our review of business practices includes an economic evaluation. Performance standards for various items are then established and a tracking method developed. Clients may ask us to develop employee education programs explaining the preventative strategies that were chosen and communicating the goals and procedures of the plan.

## ENVIRONMENTAL / OCCUPATIONAL TRAINING SERVICES

Implementation of environmental and occupation compliance programs involves the transfer of information, skills and procedural knowledge to affected employees and management personnel. Program content can include regulatory information, state-of-the-art knowledge, or practical experience factors. Establishing clear training objectives for each program is emphasized.



Programs are delivered through the method and medium that best meets the user's constraints to achieve the required learning outcomes and objectives. Training may consist of demonstrations, handout materials, or self-paced learning units, and can be accompanied and enhanced by video, CD-ROM, audio tape, or computer-based materials.

Training programs are initiated by MEA to communicate instructions, policies, and procedures for the proper implementation of environmental and occupational regulatory programs. Course content may be defined in rules and regulations or set out in "performance" based language with outcomes or objectives as the target for training. Training products include:

**Course development and presentation:** Determining long-term or progressions of training needs for a defined work group can maximize the use of training time. It permits advance scheduling of all required training elements to be conducted, tracked and documented. A detailed schedule also allows training expectations to be met for performance evaluations. Scheduling insures that instructors are well prepared and their time is effectively used. Make-up classes can be planned in advance to ensure scheduling conflicts do not prevent individuals from receiving essential training.

**Custom seminars to meet specific needs:** Whenever possible, training is delivered in the most appropriate medium for the group. These methods may range from formal slide presentations, facilitated discussions, hands-on demonstrations, to structured, self-paced computer modules.

**Computer-based interactive training:** Programs are accompanied and enhanced by video, CD-ROM, audio tape, or computer-based materials.

## WASTE MANAGEMENT SERVICES

Analyze options for waste management. Perform data collection, data development, analysis of comments, regulatory and economic analysis, feasibility studies, hazard assessments, exposure assessments and waste analysis. Provide waste characterization studies and recommendations for managing and recycling wastes. Assessments may include collection and transfer of wastes, source reduction, and evaluation of energy fuel options. Services encompass data collection and development, analysis of comments, regulatory and economic analysis, hazard characterization and risk analysis.



MEA team members have over 25 years of extensive experience in all aspects of hazardous waste issues. The team takes an innovative approach when managing hazardous waste issues for clients. When asked to review a hazardous materials/waste program, MEA provides a thorough evaluation of all facets of the regulation. MEA also examines practical methods to reduce the use of toxic materials and the generation of hazardous wastes. Opportunities are identified and cleanup initiated through material control, process modification, volume reduction, recovery and recycling. MEA's team includes chemical and process engineers who can evaluate these alternatives. MEA can assist in the selection of a qualified hazardous waste transporter, recycler, and disposal facility. They can

also ensure that the shipping manifests, records and annual reporting are done and maintained according to RCRA regulations.

## **HAZARDOUS MATERIAL MANAGEMENT SERVICES**

Creation of Material Safety Data Sheets on CD's, Internet, mail or facsimile. Development of materials tracking software and related services. Federal agencies require detailed assessment of hazardous materials information storage, recovery, processing, retention and reporting needs. The application of computer systems is essential. The level of system integration with existing software must be examined to identify to potential for economizing on the management of related data.



Effective business decisions must include up to date information on the potential impact of existing and emerging occupational and environmental risks. Rapid acquisition, organization, tracking, retention and recovery of information documents related to hazardous materials are required for up to 30 years. There are short as well as long term horizons for reporting significant events.

The MEA team is particularly expert in preparing Material Safety Data Sheets (MSDS). MSDS information must be readily available to all individuals, at all physical locations of an organization and at all times of the day. The information must be readable. Organizational policies and procedures for hazardous materials purchases are used to insure chemical manufacturers and importers are fulfilling their regulatory obligation to provide this information with product shipments. All revisions and updates to existing MSDS's are mandated to be issued by manufacturers and must be addressed by end users. In special cases, proprietary information must be managed by internal procedures. Periodic reviews of the actual chemical inventory, adequacy of MSDS content, and availability of the most current MSDS are necessary. Additional reference data is often used to verify or expand the minimum information contained in a manufacturer's MSDS to comply with related regulatory requirements.

The sequence of steps in supplying Hazardous Materials Management Advisory Services generally follow:

- ▶ Evaluate regulatory and management information needs.
- ▶ Examine available database software.
- ▶ Develop protocol for software review and testing
- ▶ Determine extent of availability to advisory services
- ▶ Establish regular frequency for data updates
- ▶ Compute size of data management system need for tracking and reporting
- ▶ Implement channels of communication (regular and cell phone; email; regular mail, FAX)