

Exsys Case Study



Environmental Compliance Management Systems (ECMS)

Argonne National Laboratory

To ensure compliance in all areas of a company, Argonne National Laboratory has built a system to provide ongoing accurate and consistent interpretation of environmental law. The Environmental Compliance Management System (ECMS) was built with Exsys® Knowledge Automation tools.

During the past twenty years, the scope and breadth of environmental laws has seen a major increase throughout the world. In addition, civil and criminal penalties have increased for those individuals and organizations that violate environmental laws and regulations.

The wide range of federal environmental laws affects Argonne National Laboratory, a large multi-program laboratory operated for the Department of Energy. They also maintain facilities in both Illinois and Idaho and are also subjected to state laws. Argonne's wide variety of facilities and processes all participate in the overall mission of conducting nuclear energy research. Potentially, a single environmental law violation could bring all activity to a stop, and every year environmental law increases in complexity. The legal ECMS expert system provides a way to evaluate environmental laws and avoid violations.

ECMS incorporates the expert systems with database integration, and provides decisions regarding application of environmental law to site-specific projects. It provides consistent interpretation of environmental laws at all levels of the organization and reflects the decision-making ability of the top environmental experts. This "expertise" is accessible by all project staff levels, reducing bottlenecks for environmental compliance approvals. It also is a smooth transition from a paper system to a predominantly computerized method of environmental review.

“The ECMS can be adapted for use anywhere in the world and is an efficient, cost effective tool that can greatly enhance the ability of any organization to comply with applicable environmental laws and regulations.”

A major benefit of implementing ECMS is that fewer people have to be "experts" on environmental laws, reducing training and incorrect interpretations. ECMS provides a consistent set of questions allowing divisional management to complete Environmental Checklists and determine other legal requirements without having to completely understand environmental laws. This increases the effectiveness of both the project engineers and the environmental compliance staff.

ECMS implements a structural framework for environmental evaluations and reviews, and provides a tutorial for personnel without environmental expertise. It also furnishes detailed and consistent documentation of the organization's responsible approach to environmental compliance.

For the full description of the original project see:

<http://www.osti.gov/bridge/purl.cover.jsp?purl=/7152731-GWtn75/>



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