Industry Overview

Leveraging technology to break new ground in risk-based environmental cleanup

The Texas Risk Reduction Program (TRRP) may not have an exciting name. But in the world of environmental management, it has caused a revolution. Under TRRP, Texas became one of the first states in the union to develop a comprehensive environmental cleanup program based on risk. This was intended to make cleanup of contaminated land, water and air more cost-effective and reasonable, resulting in a healthier environment overall.

Enter H_2A Environmental Ltd., a team of experts devoted to environmental assessment and cleanup for corporations and governmental agencies. H_2A developed new technologies – both in the field and on the desktop – to take the state's risk-based approach one step further. Now, H_2A offers organizations the unprecedented ability to effectively take both cost-effective and environmentally friendly approaches to remediation – simultaneously.

A fine balance

From pipelines and underground storage tanks to refineries and airline hangers, spills and other environmental contamination are virtually inevitable. For many Texas companies, protecting the environment has become an important part of their business plans.

The challenge comes in restoring the environment to a healthy state, without bankrupting the industry.

"No matter how careful these companies are, accidents do happen," said Kay Hawthorne, chief executive officer for H2A Environmental. "Accurately assessing the damage, and figuring out the most cost-effective way to clean up the area, are important both for the environment and for the financial health of companies involved."

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During the late 1970s and early ’80s, as environmental awareness skyrocketed in both the public and private sectors, a new breed of service firm was born. These environmental consultancies typically excavated, transported and found disposal locations for contaminated soil and other substances. Their approach was low-tech and often known as “dig and dump.”

As scientific understanding of soil and groundwater contamination grew, environmental firms became multi-disciplined organizations. They used the skills of geologists, engineers, hydrologists and others to clean up sites by applying technology. This led to new options, including cleaning up contaminated soil and water without moving it to an offsite location.

Yet as these environmental consulting firms developed new methods of cleaning up contamination, the costs for such remediation projects mounted. Funding requests spiraled out of control at government agencies, especially the U.S. Environmental Protection Agency, which spearheaded cleanup efforts at thousands of sites around the country. Plus, cleanup requirements literally bankrupted many companies found guilty of polluting the environment. In some cases, even innocent firms were harshly penalized simply because of past ownership in a now-contaminated site.

These consequences prompted government officials to move to another stage of environmental management, this time based on risk. This approach – often dubbed risk-based corrective action – is based on determining the risks associated with a particular contamination, and then determining what remediation is necessary. For example, chemical tests might be performed on the soil or water, with final clean-up standards based on the results.

At a majority of contaminated sites, risk-based remediation requires cleanup only to meet the standards of not harming the environment or human health. This means that more contaminants are allowed to remain in place, resulting in cheaper, faster remediation. That way, clean-up dollars can be spread to more contaminated sites, leading to a healthier overall environment.

Taking dirt high-tech

When environmental accidents occur, companies now are more dependent than ever on high-tech solutions. First and foremost, environmental specialists must conduct an in-depth study

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of the contaminated area. This includes analysis of soil, water and air samples. With this information, analysts can determine the exact amount of cleanup needed to make the area safe.

At H_2A, such analysis is conducted using the firm's Commander Series software, a suite of proprietary database programs. DATA *Commander*™ and TRRP *Commander*™ automate data management and streamline reporting for state environmental compliance programs. These solutions enable users to create what-if scenarios, helping them to determine ideal levels of remediation and to perform complex cost-benefits analyses.

Once cleanup levels are determined, H_2A applies another breed of environmental technology: High Vacuum Remediation Services (HiVac). When a site is contaminated by a leak, spill or other emission, hazardous liquids must be removed from the affected land and underground water supplies. H_2A designs, constructs, installs and operates customized HiVac systems to remove toxic and hazardous materials from contaminated land and water. With HiVac, H_2A can complete the job more than three times faster than competing technologies.

In both cases, H_2A applies leading technologies specifically designed for risk-based remediation. By providing cost-effective, fast solutions for environmental cleanup, the firm has further advanced the causes of both business and the environment – simultaneously.

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