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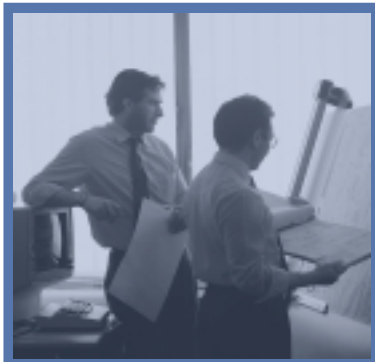
April 2000

a publication of  
Zephyr Environmental  
Corporation

## The Risk Manager's Tool Box

*Redefining the skills needed to be an EH&S manager*

All business organizations face risk. Small companies are often the most vulnerable, since a disaster at a single-site company could leave the business with no production capability. On the other hand, companies with multiple locations have their own set of problems. For a multi-national business, it can be very difficult to effectively manage risk for operations in multiple countries with different, if even sometimes conflicting, regulations. Even organizations whose futures are more predictable, such as governmental bodies, can be harmed by allegations of fraud. In addition, the importance placed on certain types of risk can change over time. New legislation, the economy, trends in the market, and world events jostle for management's attention. In the early 1980's, the environment was rarely debated in the boardroom. But by the end of the 1990's, it had taken its rightful place along with health and safety as one of many risks that companies have to manage. EH&S managers in the new millennium will be expected to help their organizations manage business risk. And this will necessitate that they have all the right tools in their risk manager's tool box.



business. But how do you determine which pose the greatest hazards to your business? And what can you do to lessen the chances of these hazards occurring and minimize the impact if they do? The answer can be found by using the risk management process pictured on page 5. As the figure shows, risk management is a continuous process. To be successful, it is necessary to identify hazards, assess the probability or "risk" that each may occur, set priorities, establish and implement prevention measures, develop and test contingency plans, and monitor the risk management system. Let's review how this approach applies to the EH&S manager.

**Hazard Identification-** Risk management starts with awareness. For EH&S managers, hazards that potentially should be identified include:

- Environmental releases
- Employee health exposures
- Fire and explosions
- Workplace safety
- Process safety
- Hazardous materials
- Security
- Natural disasters

Companies don't always consider all their operational hazards, but limit their attention to only those hazards they believe they are capable of addressing adequately. Also, companies may only give attention to hazards with "affordable solutions." However, it may be dangerous to harbor preconceptions about risk

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## Outside the Box

### Being Neighborly



David Cabe, P.E.  
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“Ever since I moved into my new house just four blocks from your plant, I’ve been suffering from the most excruciating headaches”, the homeowner said as she poured out her woes to the environmental manager. She continued “ I know your company must be the cause of my headaches because they always come on after the evening news, and I’ve noticed that the smoke coming out of your stacks gets darker at night. You must be trying to cover up your pollution by waiting until after dark to emit it.”

Sound familiar? If so, you are in good company. Public relations has become an increasingly important aspect of the EH&S manager’s contribution to management of business risk. Regardless of the thousand and one explanations the EH&S manager can offer the homeowner for her headaches, he is missing the point if he believes that having all the answers will take care of everything.

In this month’s feature article, the importance of early planning in the reduction of business risks is highlighted. Such planning is especially important when dealing with the risks posed by the public’s perception of environmental hazards. Whether the public’s concern is legitimate – “the TCE groundwater plume contaminating my drinking water well leads right back to your plant” or frivolous – “my headaches are caused by your cooling tower plumes”, the best approach is to recognize public sensitivities and to address them before they become concerns.

Just look at property value and quality of life issues. Nobody, from homeowners to developers, wants to see the neighborhood environment change. Although this is not necessarily a realistic expectation in a dynamic and

growing community, you as the EH&S manager can protect your company from considerable future grief by supporting common sense approaches to addressing public sensitivities.

If your company were considering the installation of a new process unit near your house, would it bother you? Perhaps, with little or no knowledge of the process, you might mistake the cooling tower plume for heavy pollution emissions. If so, consider recommending to your management the use of dry cooling technology to minimize the visible plume and head off problems before they occur. Even though the regulatory agency would probably not require this measure, it might still make good sense.

Would you like to hear the low drone of industrial machinery every evening when you sit out on the back porch? If not, consider noise suppression measures in the design of operating equipment or consider planting trees at your property line to form a sound barrier. Would you be bothered by the steady procession of trucks along main entrance road to your neighborhood? If so, recommend to your management that the planned location of the entrance to your new plant’s shipping area be moved.

Many of the proactive approaches to environmental public relations have little to do with the actual protection of the environment and the health and safety of your neighbors. However, taking actions to proactively respond to community sensitivities may well avert the attacks that a sometimes frustrated public can launch along the well-paved avenues of environmental litigation.

- David Cabe, P.E.  
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Currents is published quarterly by Zephyr Environmental Corporation.

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Publisher: Wesley Box  
Editor-in-Chief: David Cabe  
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Zephyr is a professional services firm providing consulting, training and software to the industrial, commercial and public sectors. The firm’s major areas of practice focus on environmental permitting, compliance and corrective action, incident management, occupational health and safety, risk assessments, ISO 14001 implementation, audits and regulatory tracking.

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management. To make risk management more of a process of managing risk and less of a reaction to incidents, EH&S professionals should be careful not to dismiss hazards simply because risk management solutions aren't apparent. It is frequently a useful exercise to rigorously analyze the hazards in order to develop appropriate responses.

**Assessment-** Once the applicable hazards have been identified, an assessment of the likelihood of their occurrence, or "risk", can be developed. Assessments of physical hazards like fire and soil contamination typically begin with an audit of the site and a review of records. How many reportable spills have occurred? How many days have been lost through accidents? What types of fires have been reported? Record searches to answer these questions will point to trends and possibly indicate management oversights or poor workplace practices.

The EH&S manager should use a standard methodology for assessing each kind of risk. For example, all fire surveys should be conducted using the same method. This ensures that survey data can be compared on an "apples to apples" basis over time and can be used to simplify the risk evaluation process. Thorough assessment also includes a measurement component. Probability and severity are the two most important factors in measuring risk. Regardless of the method used, all risk assessment tools should allow the company to analyze trends and to make decisions based on fact and not opinion.

**Set Priorities-** The company should set priorities with respect to which risks should be addressed. Some hazards are potentially infrequent and low in severity, while others may be catastrophic and could occur frequently, if not adequately managed. The assessment stage should have identified which hazards pose the greatest risk, based on severity and probability. Using the data gathered, the company should chart potential hazards with respect to frequency and severity. This vulnerability chart may be particularly useful in explaining the risk management process to a company's management. Using a specific type of environmental risk as an example, a company could rank its vulnerability as high and priority as high, indicating the need for an action plan to, for example, upgrade it's existing wastewater treatment system to meet new effluent standards.

**Prevention-** The next step in the process is to put in place a system to reduce the probability and/or severity of the hazard. It may be useful to implement policies to address each category of hazard. The policies should be as brief as possible to ensure that employees read and understand them. EH&S managers should also keep abreast of the best practices being used throughout industry to manage the risks associated with the identified hazards. Prevention generally falls into one of the following categories:

- Hazard avoidance
- Risk reduction (reducing the frequency and severity of hazards)
- Risk transfer (transferring the risk by buying insurance)
- Risk sharing (requiring suppliers to be ISO 14000 compliant)



**Contingency Planning-** The next step of the process is to plan for the worst. If a disaster happens, the company needs to be able to rescue itself and have plans to minimize the consequences. The company should create a plan to cover all probable outcomes. Whether it is referred to as a "contingency plan", "emergency plan", or "disaster plan", the plan should be put in writing, discussed with all employees who will be involved, and regularly tested and updated. Contingency plans can be developed for a number of emergencies including:

- Fire and explosions
- Natural disasters
- Utility outages
- Bomb threats
- Hazardous material releases
- Oil spills
- Workplace violence

**Monitoring-** After identifying the relevant hazards, assessing their risks, establishing priorities, implementing prevention measures, and preparing the appropriate contingency plans, the EH&S professional must then monitor both internal and external activities. Internally, the EH&S manager will need to periodically audit the ongoing level of compliance with the risk management system. Externally, the EH&S manager will need to stay abreast of any new regulatory requirements or events that could create new hazards or make existing ones more risky.

In summary, we recommend that the risk management process should be undertaken systematically and thoroughly. This recommendation applies particularly to the tasks of identifying and assessing hazards. Properly used, the risk management process helps a company in evaluating its strengths and weaknesses, responding appropriately, and becoming more competitive. Risk management is a tool that can make a company stronger. While operational risks can't be eliminated, you can seek to understand how they affect your business and manage them in a way that improves performance and maximizes profit.

## News Briefs

### Federal Environmental Compliance Investigations Increase

EPA announced record enforcement actions and penalties in FY 1999, including \$167 million in civil penalties levied in 30,935 civil judicial and administrative actions. Criminal defendants were sentenced to 208 years in prison. EPA's 716 investigations in 1999 were more complex and intensive than in previous years and were targeted at detecting serious environmental violations with potentially significant environmental impacts. In 2000, EPA plans to conduct more than 15,000 inspections and investigations. For more information, contact Wesley Box at (512) 329-5544.

### TNRCC Zeros in on Coastal Air Quality Issues

On February 1, 2000, TNRCC launched a pilot project primarily to address the problem of air contaminant upset emissions from industries located along the middle and upper Texas Gulf Coast. This program includes the following initiatives: 1) review of industry upset maintenance reports to establish trends and determine duration of events, identify potential threats, and possibly correlate high ozone days with upset reporting; 2) study of emissions inventory information, historical upset reports, and mobile source data; 3) frequent inspections when there is imminent danger; 4) use of enforcement as a tool to reduce upset emissions; and 5) enhancement of site specific air quality monitoring including the use of current and new technology. For more information contact Elena Rivera at (512) 329-5544.

### ISO Considers International Health and Safety Standard

In its annual elections, the International Organization for Standardization (ISO) has asked members to consider whether a technical committee should be established to transform a 1997 British standard into an ISO standard for occupational health and safety. In the meantime, major certification bodies such as National Quality Assurance LTD are currently using the Occupational Health and Safety Assessment Series 18001 as an auditable standard for assessing occupational health and safety systems. The fact that ISO is considering such a new standard reflects a

growing concern for responsible management of worker health and safety by companies involved in the international marketplace. For more information, contact Lisa Sisack at (858) 270-4341.

### TNRCC Studies Emissions Reduction Credit Banking and Trading Approaches

The Emission Reduction Credit (ERC) Banking and Trading Program is a market based system for trading emission credits of VOCs, NO<sub>x</sub>, and certain other pollutants from stationary, area, and mobile sources. On February 10 and March 10, 2000, the TNRCC conducted stakeholder meetings to discuss proposed changes to the program including establishment of a single cap and trade program for all of East Texas including the nonattainment areas. The revised program would provide more flexibility to sources involved in nonattainment new source review offset and netting activities and sources attempting to meet RACT requirements. For more information contact Celeste Wiley at (512) 329-5544.

### EPA Proposes Probabilistic Risk Assessments for Superfund Cleanups

EPA has developed and is requesting public comments on its proposal to use probabilistic risk assessment (PRA) in hazardous waste site (Superfund) cleanups. PRA, if applied appropriately, can better characterize uncertainty and variability in the risk estimates than the traditional point estimate approach. EPA's proposal is available at <http://www.epa.gov/superfund/pubs.htm#r>, and comments may be submitted until April 21, 2000. For more information contact Joe Zupan at (512) 329-5544.

### EPA Web Site Provides Portal for Cyber-Vandals

EPA's Web site was temporarily shut down on February 17, 2000 after a test of the agency's computer firewall system conducted by the General Accounting Office (GAO) revealed security problems. The system is designed to keep unauthorized users out, but the GAO reports it was able to penetrate the system and gain access to sensitive and confidential business information such as intellectual properties

## april news briefs...

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### Another Ripple in the TMDL Water Program

### EPA Considers Regulating Air Toxics from Electric Utilities

### OSHA Reverses Home-Based Work Policy

### EPA Proposes to Reissue Multi-Sector General Permit

### TNRCC Proposes to Limit MTBE Use in Gasoline

### TNRCC Proposes Changes to Upset/Maintenance Rules

### EPA Lowers PBT Thresholds for TRI Submittals

### TNRCC Proposes CAM Rules

### Don't Miss the Texas Title V Deadline!

and detailed production and marketing data. Computer security breaches have plagued the EPA in recent years with the agency admitting to the loss of documents containing confidential business information in the past. For an update on the status of EPA's Web site, go to <http://www.epa.gov/epahome/welcome-back.htm>.

### Another Ripple in the TMDL Water Program

After years of struggling for and finally receiving NPDES delegation, TNRCC sees rough waters ahead. On January 20, the state agency responded to EPA-proposed revisions to the National Pollution Dis-

charge Elimination System, taking exception to provisions that could significantly weaken the TNRCC's authority to administer its newly delegated wastewater permitting program. In particular, the proposals would give EPA, rather than the TNRCC, direct control over setting Total Maximum Daily Loads (TMDLs) in point and non-point source releases to bodies of water in Texas. TNRCC is also concerned that, under the proposed changes, EPA would be able to establish pollution offsets under point source permits, to select individual permits for issuance by EPA rather than the TNRCC, and to redesignate individual non-point sources (e.g., feedlots and silvaculture operations) as point sources. For more information, call David Sorrells at (512) 329-5544.

#### **EPA Considers Regulating Air Toxics from Electric Utilities**

EPA has until December 15, 2000 to determine whether hazardous air pollutant (HAP) emissions from electric utility steam generating units should be regulated under Section 112 of the Clean Air Act. A utility toxics study report submitted by EPA to Congress in February 1998 stated that mercury is the HAP of greatest concern in emissions from coal-fired utilities. Consequently, EPA is now gathering data on the mercury content of coals burned, assessing effectiveness and costs of various mercury pollution control technologies and options, and reviewing available data on health impacts associated with exposure to mercury to determine if regulation of electric utility steam generating units under Section 112 is appropriate and necessary. For more information, contact Maria Gou at (512) 329-5544.

#### **OSHA Reverses Home-Based Work Policy**

Contrary to previous statements, OSHA now contends that its agents will not inspect home offices for violations of federal safety and health rules. This guidance, published in a February 25, 2000 directive to OSHA's enforcement staff, also relieves employers from the obligation to conduct home inspections. Although OSHA will not inspect home offices under any circumstances, the agency will, when asked, follow-up on complaints involving potentially hazardous factory work being performed in the home. For more information, contact Michael Kickey at (512) 329-5544.

#### **EPA Proposes to Reissue Multi-Sector General Permit**

EPA has proposed to reissue the National Pollutant Discharge Elimination System (NPDES) Storm Water Multi-Sector General Permit (MSGP) for Industrial Activities. The original MSGP, issued in 1995, is set to expire September 29, 2000. The proposed replacement permit is currently undergoing public comment until May 30. Facilities will automatically be covered under the old MSGP if the new one is not issued by October. The reissued MSGP will be smaller, easier to read, and will have several changes including new Notice of Intent (NOI) and Termination (NOT) procedures. For more information, contact Jerry Kung at (512) 329-5544.

#### **TNRCC Proposes to Limit MTBE Use in Gasoline**

In February 2000 TNRCC proposed to limit the per gallon volume percent of methyl *tert* butyl ether (MTBE) in all gasoline in 95 central and eastern Texas counties and to require gasoline producers and importers to register with the agency. TNRCC hopes the proposed rule will alleviate public concerns about the possible increase in the use of MTBE in low vapor pressure gasolines. For more information contact Art Bedrosian at (512) 329-5544.

#### **TNRCC Proposes Changes to Upset/Maintenance Rules**

The TNRCC has proposed changes to the upset and maintenance provisions of Chapter 101. The proposal, which would apply to both grandfathered and permitted facilities, would establish a reporting threshold for certain compounds, require that records of significant upsets be forwarded within two weeks to the regional office, and would define the conditions under which a release of contaminants could be exempted from state rules. The Executive Director may require proof that a given upset was unavoidable before approving an exemption for a particular upset. For more information contact Shajabeen Hanif at (713) 977-8787.

#### **EPA Lowers PBT Thresholds for TRI Submittals**

In October 1999, EPA modified its TRI rules to add seven persistent bioaccumulative toxic (PBT) chemicals and chemical categories to the TRI list and to change certain PBT reporting thresholds. These changes are effective for the 1999 reporting year. For 17

existing PBT chemicals and chemical categories, thresholds were lowered to either 100 or 10 pounds. For dioxins, the threshold was lowered to 0.1 gram. EPA has still not changed the reporting threshold for lead to 10 pounds, as proposed. A summary of the PBT final rule can be found at <http://www.epa.gov/opptintr/tri/pbtrule-sum.pdf>. For more information contact Maria Gou at (512) 329-5544.

#### **TNRCC Proposes CAM Rules**

On the heels of a federal court decision upholding the final Compliance Assurance Monitoring (CAM) rule, TNRCC has proposed changes to its Chapter 122 operating permit rules to incorporate CAM provisions. This rulemaking will provide the TNRCC with the regulatory structure necessary to implement CAM, in addition to creating a streamlined implementation option for sources subject to CAM. The streamlined implementation option will be based on the use of general operating permits (GOP) to establish CAM options for subject sources. Similar procedures to allow the implementation of periodic monitoring through the use of GOPs will also be established in this rulemaking. Comments on the proposed rule must be submitted to the TNRCC by April 13, 2000. For more information contact David Cabe at (512) 329-5544.

#### **Don't Miss the Texas Title V Deadline!**

Remember, the final Texas Title V applications are due by May 22, 2000 for major sources of air pollutants in the major standard industrial classification (SIC) groups 26 (paper and allied products), 28 (chemicals and allied products), and 29 (petroleum and coal products). This means that facilities such as pulp mills, paper mills, petroleum refineries, and petrochemical plants, as well as plants that manufacture paper products, explosives, cosmetics, inks, paints, fertilizers, pesticides, asphalt, lubricating oils, and miscellaneous petroleum and coal products, must complete their applications within the next several weeks. All other types of sources subject to the Title V rule should have already submitted their applications. Those applicants needing extra time to file may obtain a 60-day extension by submitting their applications electronically and notifying the TNRCC in writing. For more information contact Jerry Kung at (512) 329-5544.

## On the Web

Zephyr has solutions for every aspect of your environmental, health and safety, and emergency response needs. We exist to help you identify, assess, control and reduce your environmental, health and safety risks. If you haven't been to our website, we invite you to take a look.



See for yourself.  
Visit us at <http://www.zephyrenv.com>

## Useful Information

EPA's Risk Management Program

<http://www.epa.gov/swercepp/>

TNRCC's Wastewater Permitting Program

<http://www.tnrcc.state.tx.us/water/quality/wwpermits/>

Emissions Reduction Credit Banking and Trading

<http://www.tnrcc.state.tx.us/air/erc/embank.htm>

*We want to hear from you - send your comments online to  
<http://www.zephyrenv.com/fr-comments.html>*

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