E-Plan

E-Plan provides first responders and other emergency personnel with on-site hazardous chemical information for U.S. facilities

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CRITICAL SECONDS

Thousands of different chemicals and hazardous materials are used commercially and transported across America everyday. When there is an accident involving a chemical plant, a warehouse, a refinery, or a transportation vehicle, the first responders assisting the plant or refinery fire brigade need critical information fast to protect themselves, possible accident victims, and surrounding communities. E-Plan is a secure, Internet accessible repository of facility and hazardous material information that does just that. The system provides critical chemical information at the scene and is in use in many communities nationwide. E-Plan was designed specifically for first responders through a cooperative agreement between the United States Environmental Protection Agency (EPA) and The University of Texas at Dallas (UT Dallas). Funding is now being provided by the United States Department of Homeland Security (DHS).

ACCIDENTS HAPPEN

They are the result of human or mechanical failures or random events that we cannot flawlessly control. In 2001, the National Response Center took nearly 34,000 calls reporting accidental oil or hazardous substance releases. During the same year, the Agency for Toxic Substances and Disease Registry (ATSDR) examined 8,978 significant hazardous substances emergency events, not including the World Trade Center disaster. Most people assume that transportation accidents are the major concern for injuries and health consequences. However, 75percent of these events occurred at fixed facilities.

ATSDR also reported that in 2001 1,920 people suffered health consequences from hazardous materials releases from fixed facilities such as chemical plants, refineries, and warehouses. Of the injured, 227 were first responders. Only 247 people suffered health consequences from transportation accidents, of which 47 (19 percent) were first responders.

Companies try to prepare for resulting emergencies but in many cases they cannot plan for the unusual accidents. For example, a rubber molding plant in Kingston, N.C., exploded and burned, killing three people in March 2003. Flammable solvents and hazardous materials were in the plant, but the local fire department could not find the plant's Emergency Plan. Material Safety Data Sheets (MSDS) were found in a demolished plant office but were marked "active" and "inactive," which caused much confusion for the first responders.

TRADITIONAL RESPONSE RESOURCES FOR HAZMAT ACCIDENTS

One of the most important factors in a successful response to a hazmat accident is for the first responder to obtain hazardous materials information quickly, completely, accurately, and in an easily understood format. Armed with this information, first responders can plan the most effective response to the incident and

1. Protect themselves from being on the casualty list,

2. Rescue victims involved in the incident,

3. Protect people in the areas around the incident,

4. Minimize property damage.

Of the 2,400,000 firefighters in the United States, about 80 percent are volunteers. They depend on concise, accurate information to protect themselves and others from hazardous chemicals. This information includes emergency contacts and phone numbers and a list of hazardous materials with corresponding quantities on hand and hazard characteristics. Much of this information is available on "Tier II forms" required by the Emergency Planning and Community Right to Know Act. Facilities file these forms with fire departments, Local Emergency Planning Committees, and state agencies; however, a 2003 survey by UT Dallas showed that fire departments had only 30 to 70 percent of the Tier II forms they should have on hand.

Worse yet, a survey of all U.S. metropolitan fire departments performed by Corpus Christi Assistant Fire Chief Michael Hernandez found that 93% had never used a Tier II form during an emergency response action. The primary reason cited was that the forms were simply not readily available during emergencies.

In addition to Tier II forms, first responders require many different kinds of important information, such as:

1. Maps of the area surrounding a fixed facility showing schools, hospitals and other Tier II reporting facilities

2. Facility Emergency Response Plans

3. Material Safety Data Sheets

4. NFPA Diamond Codes

5. Chemical profiles.

While federal and state laws require much of the above information to be filed with various federal and state agencies, it likewise is rarely available to the first responders at the scene of an incident. There are a variety of reasons for this. These types of information are reported to a number of different agencies, in response to nine major federal and dozens of state regulations. Formats and filing periods differ, some requirements overlap, others leave unfilled voids and there are few interagency coordination mechanisms available to encourage information sharing. The single most significant impediment, however, is that most of this information has traditionally been submitted to these agencies in paper formats, where it remains static in file storage areas. This prevents effective information sharing, limiting benefits from a significant reporting burden on industry.

THE NEED FOR A MODERN HAZMAT RESPONSE INFORMATION SYSTEM

In 1997, EPA Region 6, headquartered in Dallas, TX, with jurisdiction over Arkansas, Louisiana, Oklahoma, New Mexico and Texas, tasked its Superfund Response and Prevention Branch with finding a way to improve the rapid flow of critical information about hazardous materials to first responders. EPA Region 6 organized a volunteer task force of first responders, chemical industry, transportation industry, local emergency managers, academic personnel and EPA staff members. The task force developed system specifications for an emergency information system that relied on existing sources of information, utilizing simple user interfaces designed for responders. It was secure, reliable and broadly available.

In 2000, EPA Region 6 partnered with the Texas Commission on Environmental Quality (TCEQ) and the CyberSecurity and Emergency Preparedness Institute (http://csepi.utdallas.edu/) in the Erik Jonsson School of Engineering and Computer Science at The University of Texas at Dallas to develop the next generation of the first responder information system.

A BETTER WAY: E-PLAN, A WEB-BASED RAPID-RESPONSE RESOURCE

EPA and UT Dallas have developed a web based system that is very secure, easy to use, extremely fast and highly available. It delivers the hazmat information anywhere that wired or wireless Internet access is available. E-Plan database contains fixed facility hazardous chemical information with an individual chemical search capability that can be used in transportation accidents. Response officials must be "approved" by local county officials to become authorized E-Plan users. These authorized users then receive unique user names and passwords from the UT Dallas E-Plan Administrator.

E-Plan allows authorized users to log on to its homepage at https://erplan.net and get virtually instant access to the important data needed at the scene by the first responders. If the incident occurs at a facility, such as a water treatment plant, a chemical plant, a warehouse, a poultry plant, or a refinery, the dispatcher or emergency responder has access to the facility's Tier II data. Clicking on the name of a chemical brings up its associated DOT Emergency Response Guide. E-Plan users can also pull up MSDS, chemical profiles and data from the U.S. Coast Guard's chemical hazard response information system (CHRIS). Having involved many first responders in the design process, data is presented in a format easy to read and understand at times of extreme pressure.

Information Security: The Internet security system built into E-Plan uses 128-bit encryption, firewalls, secure socket layer and other industry-standards and state-of-the-art information security mechanisms. Authorized to access all the information deemed essential to them, first responders with authenticated accounts rely on information security being as reliable as the current state of the art.

Physical Security: E-Plan data is assured by storing in redundant servers located in a locked, shielded and secure location. Entry keys to these rooms are given only to a handful of authorized personnel. Written and video records are maintained of all personnel who gain access to the storage location. E-Plan's reliability is ensured by uninterruptible power supplies and backup network access line.

E-PLAN IS ALREADY IN ACTION

E-Plan database contains records for over 82,000 facilities and 22,000 chemicals in all 50 states, which automatically link to the DOT Emergency Response Guides, MSDS, and CHRIS data sheets. More than 1,700 emergency personnel have been trained as authorized E-Plan users in Texas, Arkansas, Ohio, Oklahoma,

Minnesota, New York, North Carolina and Louisiana.

Assistant Chief Greg A. Rohr, Hickory, N.C., Fire Department, recommended E-Plan to his department after evaluating it as part of his October 2003 applied research project for the National Fire Academy's Executive Fire Officer Program. He looked at five computer-based electronic records-management systems for hazmat incident pre-planning and response.

"E-Plan is easy to use and provides information in a clear and concise manner," Rohr said. He wrote in his research report that it allows quick access to information that a first-arriving engine company would need about hazardous materials and provides more complex and detailed information that would be needed to manage a large hazardous materials incident. Navigating between screens is easy, the grouping of information is conducive to decision making and the information is to the point and easy to read.

Rohr was impressed with the way E-Plan parsed information.

"Although someone may argue that there is no such thing as too much information, if the information is not properly organized it can be overwhelming," Rohr said. "This program does an excellent job of organizing a tremendous amount of information in a manner that can be utilized by units responding to an emergency."

Rohr said that another advantage of E-Plan is that it allows incident commanders to expand into CAMEO if the incident warrants it, providing access to real-time plume dispersion modeling software. CAMEO ® is a system of software applications used widely to plan for and respond to chemical emergencies.

TIER II REPORT FILING

E-Plan is offering managers with responsibility for filing Tier II reports an online system that simplifies the process for creating the Tier II submission files. Since the system is online, there is no software to download or install. The user goes to the secure web site on E-Plan and enters his company Tier II data in a secure location that is ID and password protected. The user then creates a set of Tier II zip files that can be written to CDs or printed in hard copy and filed with the appropriate state agency.

Get started now. Go to https://erplan.net, the E-Plan web site. Reply "OK" to the first question and "Yes" to the second and the E-Plan home page will appear. Ignore the login. Click on the "E-Plan Online Filing (Tier2)" link in the left-hand side bar. You may see another Security Alert. If so, click "Yes." You have arrived at the Tier II Online Welcome screen.

On the upper right is an FAQ link. Review this question and answer area. Answers contain tours that will help you navigate through Tier2 Online.

IMPORTANT: On the upper right of the screen, you will find the "Contact Us" link. Use it to report any problems or to ask questions.

If this is your first time to use the system, select 'Click here for a new Submission.' First time users will select a Password, enter their name and e-mail address, and then start the data entry process. Data is entered for emergency contact personnel, facilities and chemicals on site. Data can be added, edited or deleted later by returning and using the Access ID and Password.

After entering your Tier II data, you can create the files you need to send to your state. Note that Tier II Online does not file for you with the state. For now, you must create the files and send them to the state by an appropriate means to meet the statutory filing requirement.

IMPORTANT: On completing your first data entry, you are assigned an Access ID. You must enter this Access ID and the password you chose to access your data records. Write down your Access ID number. You will need it each time you access your data.

Note that the data you enter in this database is available to first responders via the E-Plan system. Please keep the data current so that first responders have the correct information.

E-PLAN HAZMAT DEMONSTRATION SITE – TRY IT

1. Go to http://erplan.net on the Internet. The E-Plan log-in screen will be displayed.

2. You can immediately go to the "Chemical Search" feature on the left sidebar of the log-in page without logging in and search for chemicals by name, UN number or CAS number.

3. After using the "Chemical Search" feature, you can go back to the log-in screen by clicking "Home" on the left sidebar.

4. You are now in the log-in screen.

5. For the "User ID" dialog box, type in "demo-im"

6. For the "Password" dialog box, type in "training" and then press the "Login" button. This logs you into the demo site and opens the "Facility Search" page.

7. Type in the name of a fictitious company, such as ISSPEC, or DISTILL in the "Facility Name" dialog box. Then press "Search" and you will get the "Facility Search Result" page. Click on the company name to open its "Facility Information" page in "Normal View," or . . .

8. Type in the letter "c" in the "Facility Name" dialog box. Then press "Search" and the screen will display all three fictitious companies. Click on one company name to open its "Facility Information" page in "Normal View."

9. Read more information (i.e. storage location, pressure, and temperature) on each chemical listed by clicking on the "Detailed View" button.

10. Explore Emergency Response Guides by clicking on the name of a chemical.

11. Explore CHRIS data, Profile and MSDS of a chemical or Google Map, Advance Google Map and Facility Weather by clicking on the appropriate item on the page.

Note: Clicking on the CHRIS data or MSDS brings up more data that is vital to the first responder to protect himself and others. Point and click through volumes of data online with almost instantaneous response. Only a person with an authorized user name and password can access the facility's data.

12. You can read more information on a company by clicking the "Contact Information," "Chemical Inventory" or "Additional Information" on the top menu.

13. When you are finished exploring the demo site, press the "Logout" button to LOG OFF the demo site.

FIND OUT MORE ABOUT E-PLAN

Contact the Emergency Preparedness Center of the CyberSecurity and Emergency Preparedness Institute at UT Dallas, 800 West Campbell Road, WT-11, Richardson, TX 75080. PH#: (972)883-2631. Fax#: 972-883-4441. Email: eplan@utdallas.edu. Go to the E-Plan webpage at http://eplannews.utdallas.edu/.