DNR Hazardous Substance Incident Database (HSI)

Hazardous Substance Incident Database Conversion

Concept Paper

Presented to IOWAccess Advisory Council

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What is the HSI?

- The original database was set up in 1995 as part of an effort to move spill reporting to electronic record keeping.

- In 2000 the database was converted to a MicroSoft based system to reduce database management issues.

- In 2005 the database developed significant problems due to file size and the database was split into two separate databases.

What is it used For?

- Hazardous Material Planning and Grant Applications by local government entities.
- Real Estate Developers to help determine the risk when purchasing/developing land.
- Public when wanting to know how safe their environment is.
- City Planners and Emergency Managers to determine high risk roadways and plan improvements.

Law - Rule

- Code of IOWA 455B.381-399

- Notification of Hazardous Conditions IAC Chapter 131

- Manure Releases IAC Chapter 65.2(9) – *same reporting requirements as Chapter 131*

IAC Chapter 131 Reporting Requirements

- Verbal Report of the Incident
  - Due within 6 hours of the Incident
  - Currently the only info stored in the database
  - **Preliminary information** (no way to track when/if the information is updated)

IAC Chapter 131
Reporting Requirements (cont.)

- Written Report of the Incident
  - Due within 30 days of the Incident
  - Report form* is available on the DNR Spill Reporting Web-site.
  - Data is currently **not** entered into the database

  * Form must be printed out, information filled in manually, and the form mailed/faxed back to the right DNR office.

Spill Statistics

Year	2001	2002	2003	2004	2005	2006
Spills	952	1012	741	700	803	712
Manure	48	53	48	51	41	60
Total	1000	1065	789	751	844	772

The Emergency Response & Homeland Security Unit (ERU) represents the DNR on Homeland Security issues, cross agency planning teams, and answers the spill reporting line during peak hours. ERU has a staff of three and has only a fraction of the time necessary to maintain, repair and correct data in the database.

Problems with the Database

- Incident locations not accurate
- Database is not searchable by address
- Incident information is preliminary
- Database is not accessible from locations outside the DNR
- Database contains errors, is missing data, and can only be used by one or two staff at a time.

Problems with the Location

1. Data cannot be automatically converted for GIS mapping.

   - GIS staff must interpret the description and develop a location entry by entry

2. Database cannot be searched by address

   - Search by city then go through results line by line to find the desired address

3. Description field often lacking enough detail to locate the incident.

Locational Fields Example

Incident Town	Incident County	Incident Directions
NEW HAMPTON	CHICKASAW	Back yard of 2431 East Avenue
LYTTON	CALHOUN	AMPC building, East side
CALMUS	CLINTON	2.5 miles N of Calmus, 2 miles E.
AMANA	IOWA	Amana Refrigeration Plant
FAYETTE	FAYETTE	South end Main St.
READLYN	BREMER	County Rd. V49
FAIRFIELD	JEFFERSON	

Location Problems

2. Missing Data

3. Location references non-permanent point

4. Data is non-standardized and thus non-searchable

Limited Data

The data in the database is from the initial report. The initial report is sometimes incomplete, contains errors or estimates, and is not verified.

- Must be reported to the DNR within 6 hrs
- Staff do not often have the time to update information once received.
- Follow-up is not often done on releases reported as minor.

Database is not Accessible

- Database is inside the DNR's network
  - Firewalls block outside access
  - Database can only be modified by one person at a time
- Rights must be granted by IT to access it.
  - Public access the database from a limited number of locations
  - Only a small number of DNR staff have access to the database

Copy of the Current Database Web Page

Database Reports

These reports and tables contain information on initial spill incidents collected over a longer period of time. They are intended for individuals conducting research, statistical analysis, and planning activities.

Reported Incidents from 1995 - 2000 (this data was converted from an old database and may not be complete)

Field Office Log (word file)	Database Raw Data (excel file)

Reported Incidents from 2000 – 2005

Field Office Log (word file)	Database Raw Data (excel file)

Reported Incidents 2005 - current

Field Office Log (pdf file)	Database Raw Data (excel file)

The Solution

A new database with a web based front end.

2. Updates and correction by responsible parties –

    - Freeing staff up from data entry

    - Providing for more complete information

5. New database would have a formatted location field to standardize location information –

    - Allow incident sites to be mapped and thus linked to the DNR GIS mapping and search tools.

    - Allow public to easily search for incident information