

UT Dallas ~ E-Plan Presentation

*In hazmat or terrorism disasters,
every second should count.
With E-Plan, every
second does.*



*A federally-sponsored,
highly secure system designed
to make hazardous material
information immediately
available online.*

E-Plan Users Group

**October 21, 2010
Fort Myers, Florida**

Dr. E. Douglas Harris, Associate Dean and Research Professor
Executive Director, CyberSecurity and Emergency Preparedness Institute (CSEPI)
Erik Jonsson School of Engineering and Computer Science
The University of Texas at Dallas (UT Dallas)

CyberSecurity and Emergency Preparedness Institute - Jonsson School UT Dallas

CSEPI National Recognition and Certifications

The University of Texas at Dallas' CSEPI Design of Highly Secure Web Based Systems

- The CyberSecurity and Emergency Preparedness Institute (CSEPI) has developed highly secure, highly available web based systems since 1999.
- The systems are designed for security and have had no security breaches since implementation while operating 24/7/365 at 5-9's availability (down < 5-1/4 minutes per year).
- Two highly secure labs; fault and disaster tolerant
 - ✓ CSEPI's efforts have been recognized and certified by nationally known agencies.

CSEPI National Recognition and Certifications

- A Center of Academic Excellence in Information Assurance Research (2008-2013) by NSA and DHS (2008 first year awarded).
- A Center of Academic Excellence in Information Assurance Education (2004-2007 & 2007-2012) by NSA and DHS.
- Information Security Management System ISO/IEC 27001:2005
 - Original Issue* 02/18/2000 (BS 7799) by BSI
 - Latest Issue 02/08/2010 by BSI
 - Expires 02/22/2013 by BSI
- Penetration tested by nationally known specialist and the State of Texas (E-Plan passed all rigorous penetration testing)

* The CyberSecurity and Emergency Preparedness Institute was the first organization in the U.S. to be certified to BS 7799 Information Security Management System now ISO/IEC 27001:2005.

E-Plan: Web-based HazMat Information System

- ✓ E-Plan started on 10/2/2000 through a contract agreement between EPA, TCEQ, and UT Dallas to develop an “Emergency Management Information System” for emergency management and preparedness.
- ✓ E-Plan was developed with input from local, state, and federal First Responders.
- ✓ In December of 2001 the initial program development was successfully completed and beta testing started in the Corpus Christi, TX Fire Department by District Chief Michael Hernandez.
- ✓ Expansion has been continuous since the Beta Test was completed in early 2002 (~ 9 years).

UT Dallas Supports Two Systems

1) E-Plan System

2) Federal System

E-Plan: Web-based HazMat Information System

E-Plan database contains fixed facility hazardous chemical information with an individual chemical search capability that can be used in transportation accidents.

E-Plan System Data Base		
Facilities in E-Plan	September 1, 2010	September 1, 2008
RMP Facilities	18,209	17,506
Tier II Facilities	341,906	185,748
Total Facilities	360,115	203,254
# States with all Tier II Facilities in E-Plan	36	12
E-Plan User Accounts	4,771	2,292
Unique Chemicals in E-Plan	24,673	22,777

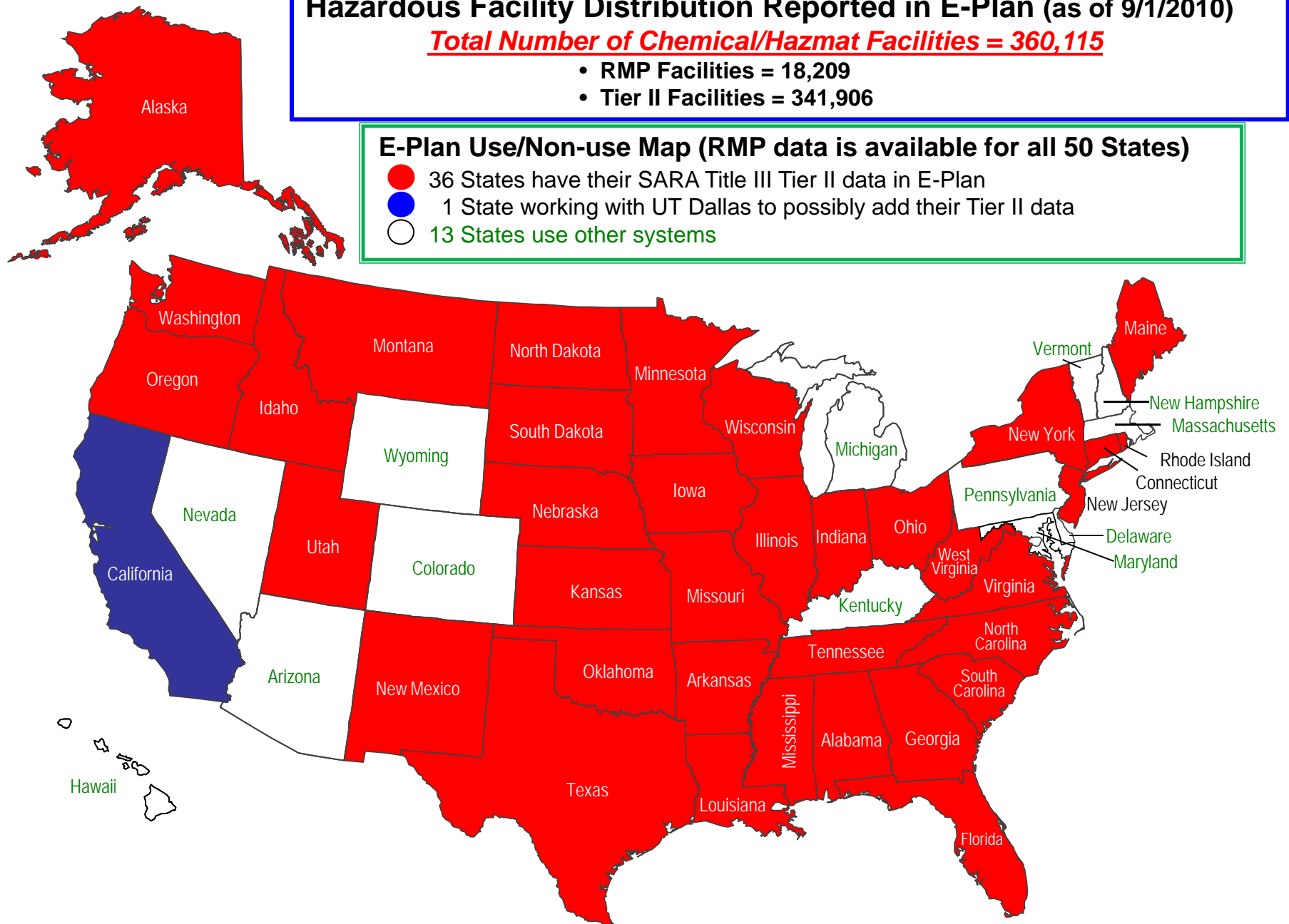
Hazardous Facility Distribution Reported in E-Plan (as of 9/1/2010)

Total Number of Chemical/Hazmat Facilities = 360,115

- RMP Facilities = 18,209
- Tier II Facilities = 341,906

E-Plan Use/Non-use Map (RMP data is available for all 50 States)

- 36 States have their SARA Title III Tier II data in E-Plan
- 1 State working with UT Dallas to possibly add their Tier II data
- 13 States use other systems



Federal: Web-based HazMat Information System

Federal database contains fixed facility hazardous chemical information with an individual chemical search capability that can be used in transportation accidents.

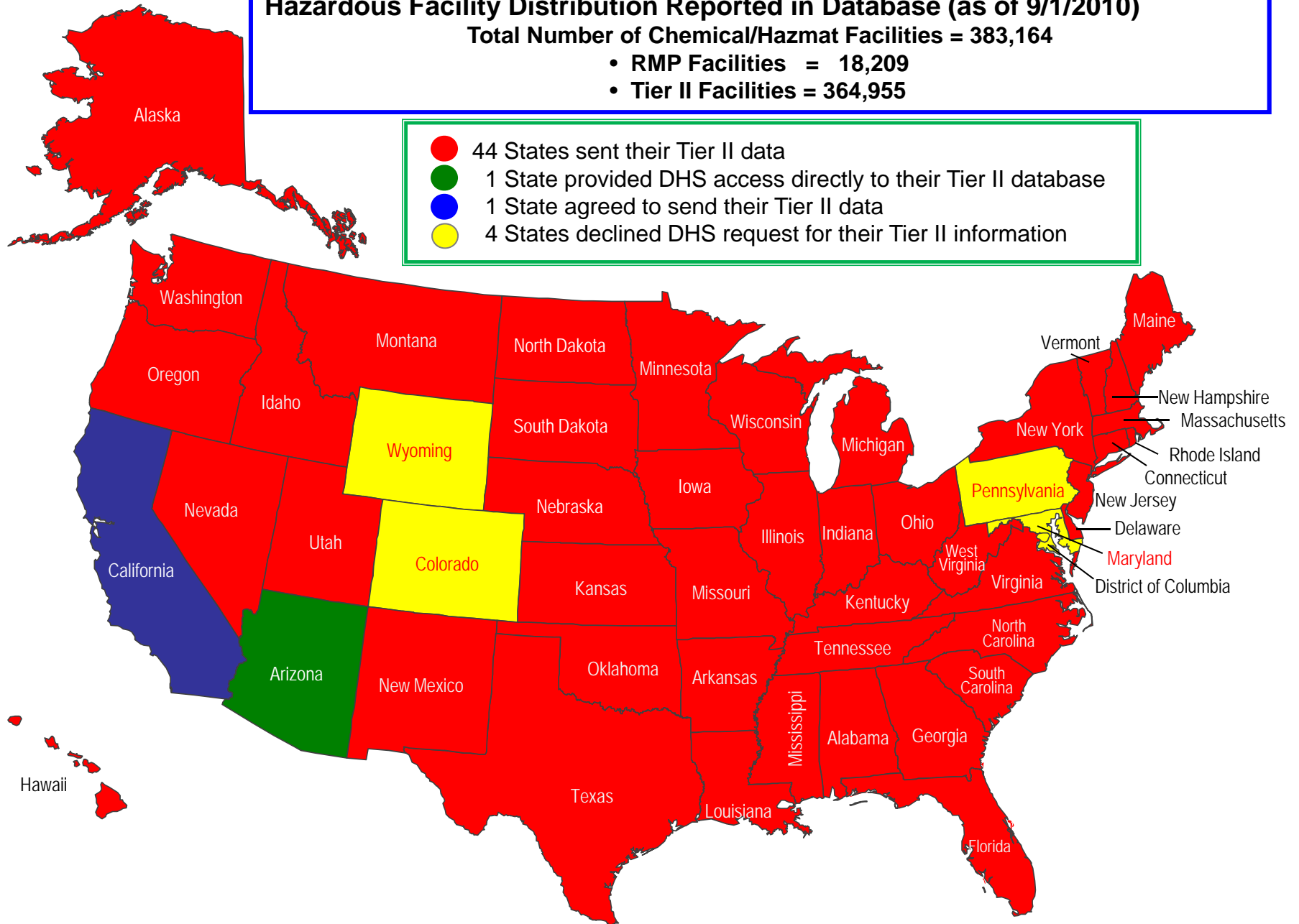
Federal System Data Base		
Facilities in Federal DB	September 1, 2010	September 1, 2008
RMP Facilities	18,209	
Tier II Facilities	364,955	
Total Facilities	383,164	
# States with all Tier II Facilities in Federal DB	45	
Federal User Accounts	117	
Unique Chemicals in E-Plan	24,673	

Hazardous Facility Distribution Reported in Database (as of 9/1/2010)

Total Number of Chemical/Hazmat Facilities = 383,164

- RMP Facilities = 18,209
- Tier II Facilities = 364,955

- 44 States sent their Tier II data
- 1 State provided DHS access directly to their Tier II database
- 1 State agreed to send their Tier II data
- 4 States declined DHS request for their Tier II information



Summary ~ E-Plan and Federal DB Differences

Description	E-Plan System	Federal System
# states in database	36	45
# states agree to provide data	1	1
# states declining federal request	<>	4
# states using other systems	13	<>
Total	50	50
# of users in each system	4,771	117

States Using E-Plan Tier II Submittal

NY, GA, NC, SC, and TN use E-Plan to submit their Tier II data

New York SEMO

<http://www.semo.state.ny.us/programs/SERC/tier2.cfm>

Georgia Environmental Protection Division

<http://www.gaepd.org/Documents/tier2.html>

North Carolina Dept. of Crime Control & Public Safety

<http://www.nccrimecontrol.org/Index2.cfm?a=000003,000010,000064,000390,000391>

South Carolina Dept. of Health and Environmental Control

<http://www.scdhec.gov/environment/baq/tier2.aspx>

Tennessee Emergency Management

<http://www.tnema.org/ema/preparedness/technical/chemicalinfo.html>

E-Plan in Georgia

- ❖ *Jenny, the state of Georgia has faced and continues to face budget shortfalls. This has led to reduction in staff in certain programs including the EPCRA program. Due to staff shortage and our inability to process Tier II submittals as we have done in the past we have made the decision to convert the state to E-Plan for all submissions of Tier II information. Therefore you should see a dramatic increase in facilities requesting E-Plan submitter accounts and an increase in submittals starting in January 2011. Also I am sure you will see an increase in requests for technical assistance coming your way after the first of the year.*
- ❖ *We are in the process of effecting the change by contacting all the LEPC's in the state and trying to get the word out any other way possible. We have updated our Tier II web page on our EPD website with I hope is enough adequate guidance documents to get people registered and guide them on their way to filing their info. I am sure it will be confusing for those who did not submit using E-Plan last year but surprisingly almost 45 % used E-Plan last year when we offered it as the preferred alternate process to file Tier II info.*
- ❖ *Albert J. Frazier, Jr., Program Manager II, EPCRA Program Manager, Emergency Response Team Manager, via email September 21, 2010*

RMP and SARA Title III Tier II Funding

- Federal and UT Dallas Total Funds = \$7,293,802 from October 2000 to today (~ 10 years).
 - 96% Federal Funding
 - 04% UT Dallas Funding (~ \$300K)
- States have been and are currently allowed to use E-Plan free of charge if they provide their SARA Title III Tier II data
- Efforts for permanent funding have been initiated; we have been successful with 10 years of continual funding

E-Plan is Free for States to Use

The “E-Plan Users Group” can select & prioritize changes that would benefit their response efforts and UT Dallas will implement them when UT Dallas funding is available.

Currently, if a state needs something special outside of E-Plan Users Group request, only then will they be requested to provide funding.

E-Plan: Web-based HazMat Information System

E-Plan (<https://erplan.net>) is 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.

Home

Chemical Search

WMD Information

NIOSH Pocket Guide

ATSDR Toxic Profile

CHEMTREC

E-Plan Online Training

E-Plan Online Filing (Tier2)

E-Plan News

E-Plan Facilities/State

OSHA/EPA Occupational Chemical Database

DISASTERHELP.GOV

EPA's October 2006 Consolidated List of Chemicals

NOAA Chemical Response Tools

NOAA Oil Response Tools

U.S. Fire Administration

U.S. National Response Team

CAMEO Chemicals

EPA Tier2 Submit

Welcome to E-Plan - Emergency Response Information System

Notices: 1) Companies - If you want to fill out your Tier II reports using E-Plan's Online Tier2 Submit, click [here](#)
2) State and Local Government Agencies - click [here](#) to get information on how to load your Tier II data into E-Plan

UserID

[Forgot User Id](#)

Password

[Forgot Password](#)

Login

New E-Plan users and others must sign up for an account
Click [here](#) to continue

E-Plan - Delivering Vital Hazmat Information to First Responders

E-Plan is - The Nation's Largest Database of Chemical and Facility Hazards Data with over 200,000 facilities and 22,000 unique chemicals.

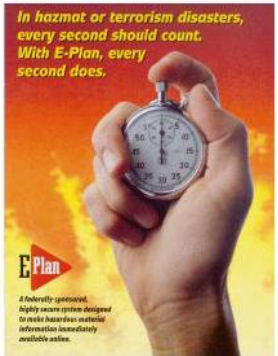
It is free, simple and easy for First Responders and State and Federal users to use.

E-Plan is a proven system that provides First Responder and others with on-site hazardous chemical information for facilities around the United States. It utilizes emergency contact and hazardous material information submitted under the U.S. Environmental Protection Agency (EPA) regulations and sends it via the Internet to First Responders just when they need it the most.

E-Plan provides Tier II reporting data and other important information instantly such as

1. Maps of the area surrounding a fixed facility showing schools and hospitals,
2. Maps of all facilities with a specified hazardous material in specific area,
3. Chemical Hazards Response Information System (CHRIS) data,
4. Material Safety Data Sheets (MSDS),
5. Chemical profiles,
6. Emergency Response Guidebook (ERG) pages,
7. National Fire Protection Association (NFPA) codes,
8. Facility Risk Management Plans (RMPs).

In hazmat or terrorism disasters, every second should count. With E-Plan, every second does.



E-Plan
A federally sponsored, highly secure system designed to make hazardous material information immediately available online.

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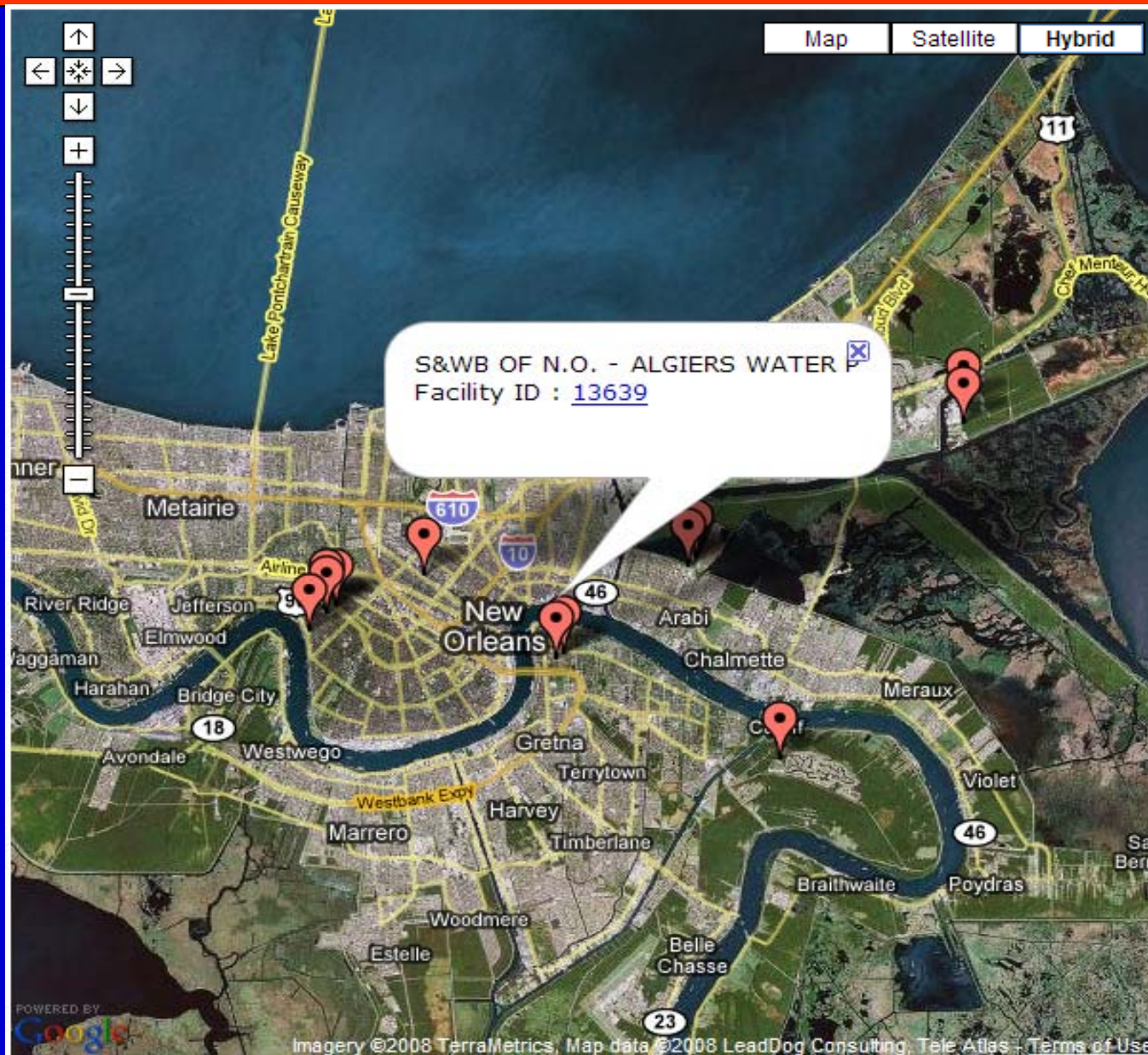
E-Plan Provided (at start-up 2001)

- Material Safety Data Sheets (MSDS)
- Chemical profiles
- Emergency Response Guidebook (ERG) pages
- CHRIS Manual Data Sheets
- National Fire Protection Association (NFPA) codes

E-Plan Provides (since start-up)

- Facility Risk Management Plans (RMPs)
- Maps of the area surrounding a fixed facility showing schools and hospitals
- Identifies extremely hazardous substances (EHS)
- Instant download of data from E-Plan into Excel, PDF or Tier2 zip files for offline viewing and analysis
- Search for facilities containing a chemical and/or containing more than specific quantities.
- Maps of all facilities with a specific hazardous material in a specified area for; hurricanes, tornados, floods, terrorist threats, etc. (example next page)

E-Plan Facility Search by Chemical



E-Plan Provides (since start-up)

- E-Plan online filing system provides an online interface for capturing facility data and makes it instantly available to first responders. Being used by NY, NC, SC, TN, GA
- Visual Search provides capability to search for nearby facilities by selecting a point on a map
- Integrated with Google Maps to show facilities and nearest schools and hospitals
- A multi-step approach which incorporates data cleaning and data filling for loading data from states (fill missing lat/long information, etc.)
- Developing interfaces with Exchange Network partners for data import (currently NE data, soon CA data)

E-Plan Provides (since start-up)

- Web services for E-911 integration (beta FL, maybe)
- Cleaner and simple user interface for providing facility and chemical information with appropriate color coding (EHS chemicals highlighted in orange color)
- Multi query search capability to search for facilities satisfying several criteria (used for contingency planning)

Examples three new E-Plan features;

- United States National Grid (USNG)
- Multiple KML downloads
- Automatic plume model development

Key Additional Features

- 1) **U.S. National Grid Coordinates**
- 2) KML Downloads of Specific areas like counties or cities (KML is a file format used to display geographic data in an Earth browser such as Google Earth)
- 3) Automatic Plume modeling

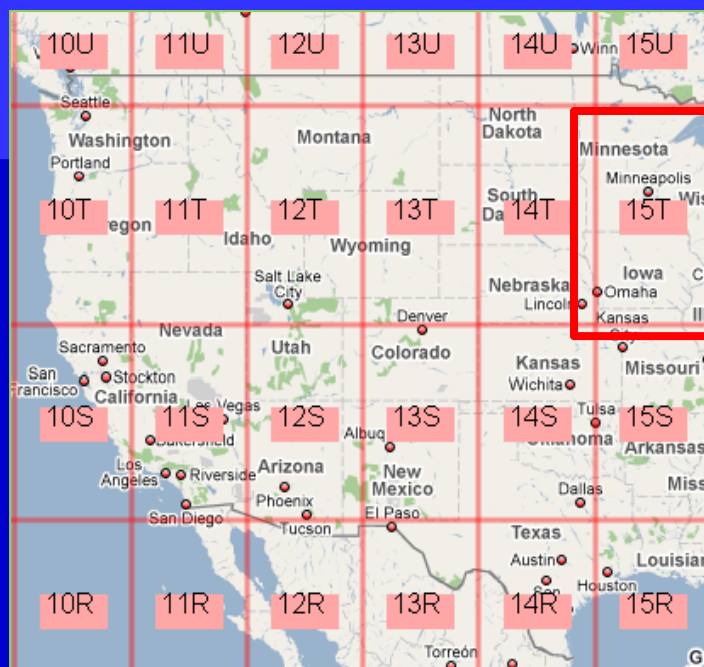


PLATE 12

96°

560,000m

90°

500,000m

84°

QV	TQ	UQ	VQ	WQ	XQ	YQ	BV	CV	DV	EV	FV	GV	QV
QU	TP	UP	VP	WP	XP	YP	BU	CU	DU	EU	FU	GU	KP
QT	TN	UN	VN	WN	XN	YN	BT	CT	DT	ET	FT	GT	KN
QS	TM	UM	VM	WM	XM	YM	BS	CS	DS	ES	FS	GS	KP
QR	TL	UL	VL	WL	XL	YL	BR	CR	DR	ER	FR	GR	K
QQ	TK	UK	VK	WK	XK	YK	BQ	CQ	DQ	EQ	FQ	GQ	K
QP	TJ	UJ	VJ	WJ	XJ	YJ	BP	CP	DP	EP	FP	GP	K
QN	TH	UH	VH	WH	XH	YH	BN	CN	DN	EN	FN	GN	K
QM	TG	UG	VG	WG	XG	YG	BM	CM	DM	EM	FM	GM	K
QL	TF	UF	VF	WF	XF	YF	BL	CL	DL	EL	FL	GL	K

Reading from lower left corner: starting with zero, measuring right, then up

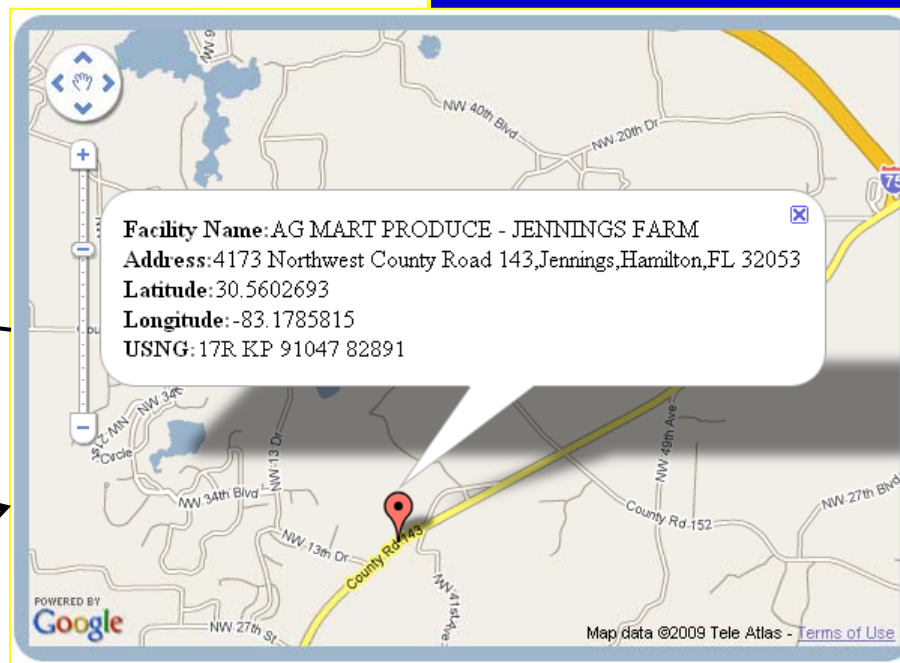


15T VK 83XXX 53XXX

USNG of a facility in Hamilton County, FL

Facility Information	Contact Information	Chemical Inventory	Additional Information	StateFields
Facility Information				
Facility Name	AG MART PRODUCE - JENNINGS FARM			
Company Name	AG - MART PRODUCE			
Filing Year	2007			
Department				
Physical Address	4173 NORTHWEST COUNTY ROAD 143 JENNINGS, HAMILTON County FL - 32053-2810			
Latitude	30.557920			
Longitude	-83.181940			
USNG	17R KP 90719 82637			
Location Description				
Number of Employees	Information not available			
Corporate Email	Information not available			
Type of Facility	Tier2			
Data Management	Last modified Date: 2009-01-06 (year-month-day) First Submit Date: 2009-01-06 Data Submitted by: State of Florida NAICS - 111998 State Facility ID - 33617 -			
Show Google Map Advance Google Map Printer Friendly Version Detailed View				
Download Tier2 Zip File Download Google Earth Download Tier II Report Facility Weather				

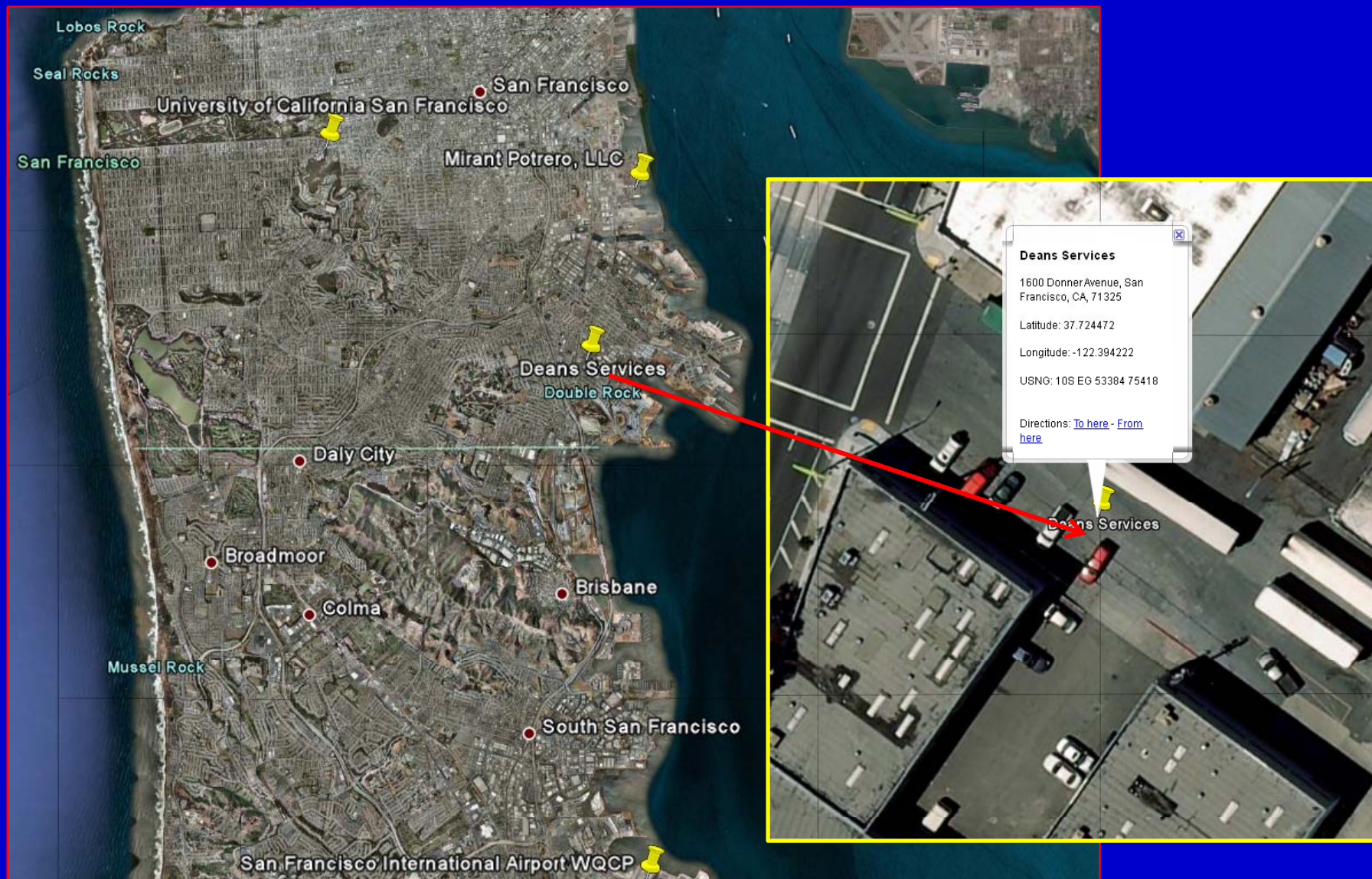
This facility has a valid physical address and lat/long data.



Key Additional Features

- 1) U.S. National Grid Coordinates
- 2) **KML Downloads of Specific areas like counties or cities (released)**
- 3) Automatic Plume modeling

KML Facility Example in San Francisco County, CA



Release of Key Additional Features

- 1) U.S. National Grid Coordinates
- 2) KML Downloads of Specific areas like Counties or Cities (KML is a file format used to display geographic data in an Earth browser such as Google Earth)
- 3) **Automatic Plume Modeling (beta testing)**

Automatic Chemical Plume Tracking

Facility Information

Facility Name **Deans Services**
Company Name
Filing Year 2008
Department
Physical Address 1600 Donner Avenue
San Francisco, San Francisco County
CA - 71325
Latitude 37.724472
Longitude -122.394222
USNG 10S EG 53384 75418

[Printer Friendly Version](#)

[Detailed View](#)

[Download Tier II Report](#)

[Facility Weather](#)

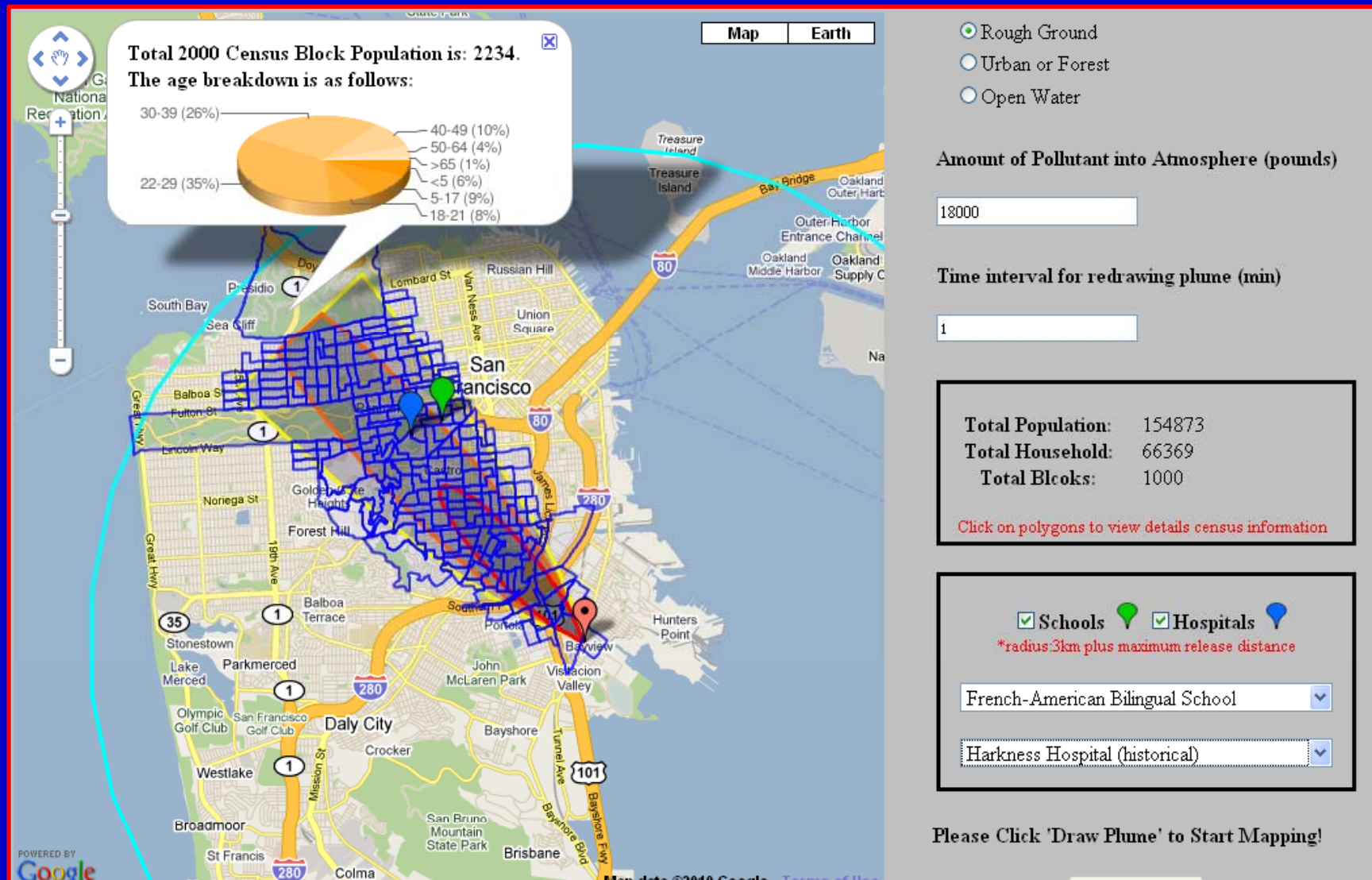
Contact Information

		Phone	Email
Rob Gardner	Emergency Contact	24-hour - 4150720600 Work - 4157206002	
Ron Dean Jr.	Operator	Work - 4158224111	
Rob Gardner	RMP Contact		

Chemical Inventory Information

Chemical (Click for ERG link)	CAS #	Max Qty.(lbs)	Avg Qty.(lbs)	NFPA Code H F R	Properties	Fact Sheets
Ammonia (anhydrous) (EHS Chemical) Show Chemical Plume	7664-41-7	18,000	18,000	3 1 0 -		MSDS Profile CHRIS
Synonyms: Am-fol;Ammonia;Ammonia (anhydrous);Ammonia (anhydrous) (liquefied);Ammonia, [anhydrous];Ammonia, anhydrous;Ammonia, anhydrous, liquefied;Ammonia gas;Ammonia solution, with more than 50% ammonia;Ammonia-14n;Ammoniac, anhydre (dot french);Ammonia;						

Automatic Chemical Plume Tracking



E-Plan Data Validation and Integrity

1. Alphanumeric type

- Verify fields that are supposed to contain numbers indeed contain numbers, and those that are supposed to contain only English text indeed contain text

2. Validate address (standardization and validation on Google)

- Check that the facility address exists on Google maps

3. Phone number

- Verify that phone numbers are in proper format

4. E-mail address

- Verify that email is in proper format

5. CAS

- Verify that CAS # is a valid number

6. Quantity

- Check that average/max quantities are reasonable and consistent

7. Code verification for pressure, temperature

- Verify that these numbers are reasonable and consistent

8. Latitude and longitude (checking based on state)

- Verify that lat/long is consistent for that state

E-Plan Users Group Priorities (Fall 2009)

Outreach (Vinson Poole);

1. Obtain an official position from EPA HQ concerning E-Plan. (completed?)
2. Make a presentation at the NASTTPO national conference in California. (done)
3. Establish an E-Plan link in at least one major website that provides information to Tier II users.

Enhancements (Charles Boyd);

1. 3D floor planning (not done, need money)
2. Wiser/Toxnet Link (completed)
3. ACAMS (state's have this function already)

Training (Matthew Marshall);

1. Update all training materials/ web-based training/ Action Video (some done)
2. Presentations for State and Federal Conferences (5 SERC's, some conferences)
3. Create a Train the Trainer guide (not done, need money)

Rules and Regulations (John Scott);

1. Support Training and Outreach Sub-Committee Objectives (not complete)
2. Research Regulations as they relate to E-Plan (not complete)
3. Develop FAQ for target groups (planners, first responders, and industry)
(E-Plan FAQ link sent for additions and corrections)

The University of Texas at Dallas

Thanks for your
kind attention