



# The ChemResponder Network, Advanced Session February 25, 2021



23rd California Unified Program Annual  
Training Conference  
February 2 – March 18, 2021

# Agenda

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- Introductions
- Refreshers from yesterday's "intro" session
- Managing Facility Information in ChemResponder
- New and Upcoming with Facilities
- IMAAC Portal
- APIs in ChemResponder
- Q&A

# Introduction

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- This session builds off yesterday's "introductory" session about ChemResponder
- Whereas yesterday's session described many topics at a high level, today's session explores fewer topics but in greater detail

# Introduction

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- Refresher – what is ChemResponder?
  - A cloud-hosted common operating picture tool for the collection, management and sharing of chemical incident and facility information.
  - Provided at no cost to all users; sponsored by the FEMA CBRN office and its interagency partners

# CUPA Pilot with ChemResponder

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- **Purpose:** develop implementation guidelines for using CBRNResponder as a local hazmat response tool, an electronic Unified Program Area Plan using real world organizations and limitations, and for DEAP integration
- **Partners:** Cal EPA (lead), Yuba County, Contra Costa County, Roseville County, San Diego County
- **Approach:**
  - 4 CUPAs participating
  - Uploading CUPAs' facility information (from CERS) into their respective ChemResponder organizations
  - Accrue feedback on ChemResponder incident response and facility management capabilities from CUPAs; use as basis for developing implementation guidelines
- **Current status:** uploading CUPA facility information this month to proceed with pilot activities

# Managing Facilities in ChemResponder

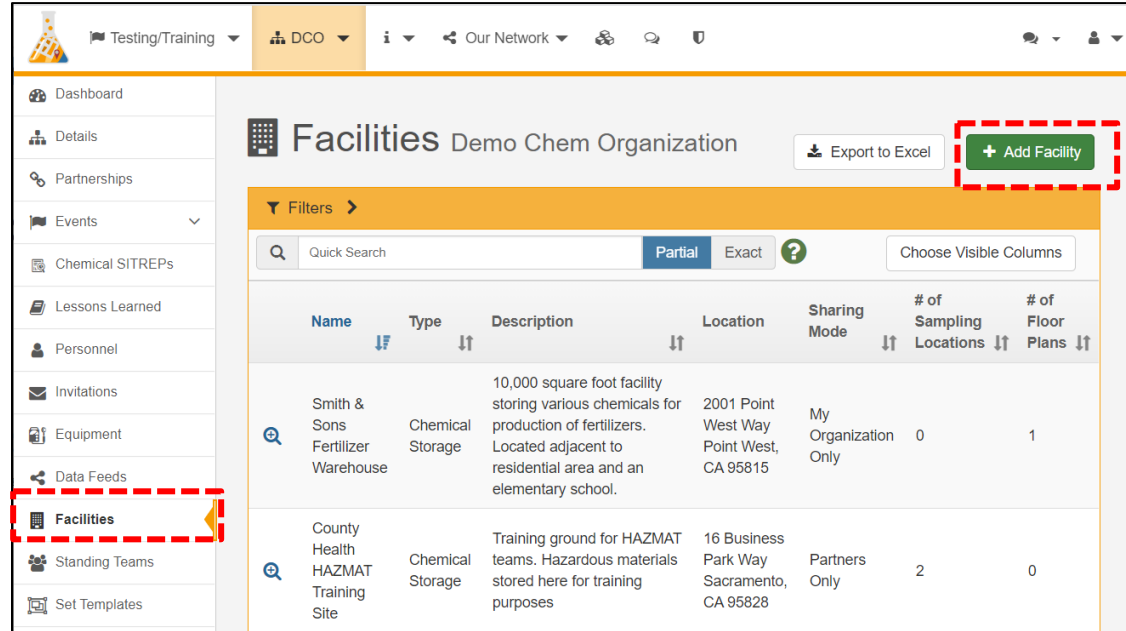
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## Topics we'll cover:

- Uploading facilities and adding...
  - chemical inventory
  - documents
  - contacts
- Utilize “indoor data collection” feature
  - Upload floor plans from mobile application or on website
  - Add ground truth data to floor plans (chemical readings, spectra, pictures, etc.)
  - Edit data point locations in bulk, and translate data points to updated floor plan images
- Share facilities with partners and display on event map

# Upload Facilities

- Users can upload facilities to their ChemResponder organizations and share them with partners
- Include information like:
  - Documents (e.g. area plans, emergency response plans)
  - Floor plans
  - Chemical inventories
  - Points of contact
- “Bulk upload” capability presently under requirements development. Chainbridge tasked with completing by Oct. 2021.



Testing/Training DCO Our Network

Dashboard  
Details  
Partnerships  
Events  
Chemical SITREPs  
Lessons Learned  
Personnel  
Invitations  
Equipment  
Data Feeds  
**Facilities**  
Standing Teams  
Set Templates

Facilities Demo Chem Organization

Export to Excel + Add Facility


Filters

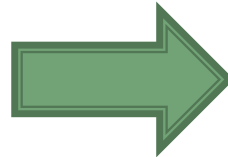
Quick Search Partial Exact Choose Visible Columns

Name	Type	Description	Location	Sharing Mode	# of Sampling Locations	# of Floor Plans
Smith & Sons Fertilizer Warehouse	Chemical Storage	10,000 square foot facility storing various chemicals for production of fertilizers. Located adjacent to residential area and an elementary school.	2001 Point West Way Point West, CA 95815	My Organization Only	0	1
County Health HAZMAT Training Site	Chemical Storage	Training ground for HAZMAT teams. Hazardous materials stored here for training purposes	16 Business Park Way Sacramento, CA 95828	Partners Only	2	0

# Upload Facility Info

Navigate to “Facility Details” page for a given facility to add POCs, documents, floor plans, chemical inventory


	Smith & Sons Fertilizer Warehouse	Chemical Storage	10,000 square foot facility storing various chemicals for production of fertilizers. Located adjacent to residential area and an elementary school.
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### Facility Details

Export Delete Disable Edit

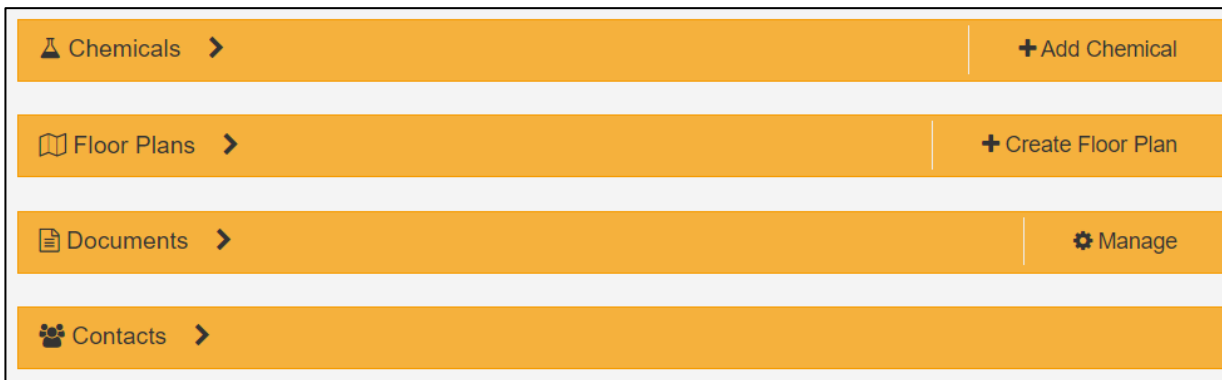
#### General Information

Owner	DCO	Type	Chemical Storage
Name	Smith & Sons Fertilizer Warehouse	Sharing Mode	My Organization Only
Enabled?	Yes	Is Tier 2?	Yes
Icon		Default Event Scenarios	--
Description/Comment		10,000 square foot facility storing various chemicals for production of fertilizers. Located adjacent to residential area and an elementary school.	



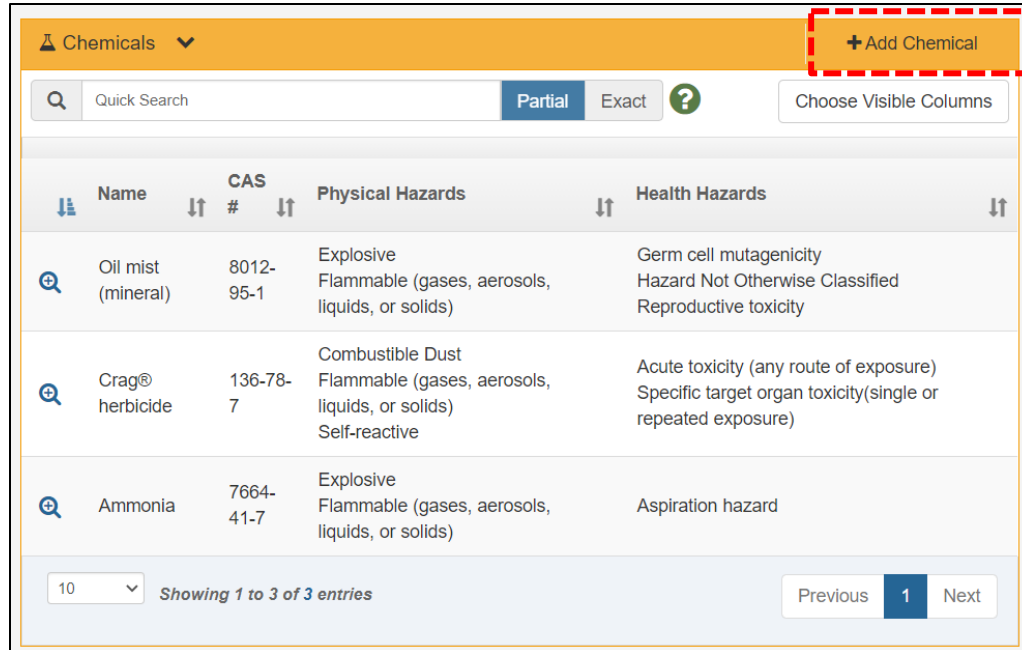
# Upload Facility Info

At the bottom of the “Facility Details” page, see sections for uploading chemicals, floor plans, documents, and contacts.



# Add Chemicals to Facilities

Opening the chemical list shows existing inventory. Choose “Add Chemical” to add new chemical records.




The screenshot shows the ChemResponder interface for managing chemical inventory. At the top, there is a navigation bar with a dropdown menu labeled 'Chemicals' and a button labeled '+ Add Chemical' which is highlighted with a red dashed box. Below the navigation bar is a search section with a 'Quick Search' input field, buttons for 'Partial' and 'Exact' search, a help icon, and a 'Choose Visible Columns' button. The main area displays a table of chemical records with columns for Name, CAS #, Physical Hazards, and Health Hazards. The table contains three entries: Oil mist (mineral), Crag® herbicide, and Ammonia. At the bottom, there is a pagination control showing 'Showing 1 to 3 of 3 entries' and 'Previous 1 Next' buttons.

Name	CAS #	Physical Hazards	Health Hazards
Oil mist (mineral)	8012-95-1	Explosive Flammable (gases, aerosols, liquids, or solids)	Germ cell mutagenicity Hazard Not Otherwise Classified Reproductive toxicity
Crag® herbicide	136-78-7	Combustible Dust Flammable (gases, aerosols, liquids, or solids) Self-reactive	Acute toxicity (any route of exposure) Specific target organ toxicity(single or repeated exposure)
Ammonia	7664-41-7	Explosive Flammable (gases, aerosols, liquids, or solids)	Aspiration hazard

# Add Chemicals to Facilities

Choose chemical from the list and indicate whether it's EHS, physical state, etc.

 Add Chemical to Facility Smith & Sons Fertilizer Warehouse Save Changes Cancel

\* Indicates required field

General Information

Chemical \*

EHS?

States?  Solid  
 Liquid  
 Gas

Trade Secret?

Below Reporting Thresholds?

State or Local Requirements?

Coming soon:  
ability to add  
mixtures and their  
components

# Add Chemicals to Facilities

## Indicate Hazard Information for the chemical

Hazard Information			
<b>Physical Hazards</b>	<input type="checkbox"/> Combustible Dust	<b>Health Hazards</b>	<input type="checkbox"/> Acute toxicity (any route of exposure)
	<input type="checkbox"/> Corrosive to metal		<input type="checkbox"/> Aspiration hazard
	<input type="checkbox"/> Explosive		<input type="checkbox"/> Carcinogenicity
	<input type="checkbox"/> Flammable (gases, aerosols, liquids, or solids)		<input type="checkbox"/> Germ cell mutagenicity
	<input type="checkbox"/> Gas under pressure (compressed gas)		<input type="checkbox"/> Hazard Not Otherwise Classified
	<input type="checkbox"/> Hazard Not Otherwise Classified		<input type="checkbox"/> Reproductive toxicity
	<input type="checkbox"/> In contact with water emits flammable gas		<input type="checkbox"/> Respiratory or skin sensitization
	<input type="checkbox"/> Organic peroxide		<input type="checkbox"/> Serious eye damage or eye irritation
	<input type="checkbox"/> Oxidizer (liquid, solid or gas)		<input type="checkbox"/> Simple Asphyxiant
	<input type="checkbox"/> Pyrophoric (liquid or solid)		<input type="checkbox"/> Skin corrosion or irritation
	<input type="checkbox"/> Pyrophoric Gas		<input type="checkbox"/> Specific target organ toxicity (single or repeated exposure)
	<input type="checkbox"/> Self-heating		
	<input type="checkbox"/> Self-reactive		

# Add Chemicals to Facilities

Provide storage information and click

 Save Changes

Inventory/Storage Information

Maximum Amount (Range Code)	<input type="text" value="Choose code for maximum amount..."/>
Average Daily Amount (Range Code)	<input type="text" value="Choose code for average amount..."/>
# of Days On-Site	<input type="text" value="Enter # of days"/>
Type of Storage	<input type="text" value="Enter description of the type of storage"/>
Storage Conditions	<input type="text" value="Enter description of storage conditions"/>
Storage Locations	<input type="text" value="Enter description of storage locations"/>

# Add Floor Plans



Next: add  
Floor plans



Chemicals > [+ Add Chemical](#)

Floor Plans > [+ Create Floor Plan](#)

Quick Search  Partial Exact ? [Choose Visible Columns](#)

Name	Description	Active?	Thumbnail
 Floor 2	Layout of floor 2	Yes	

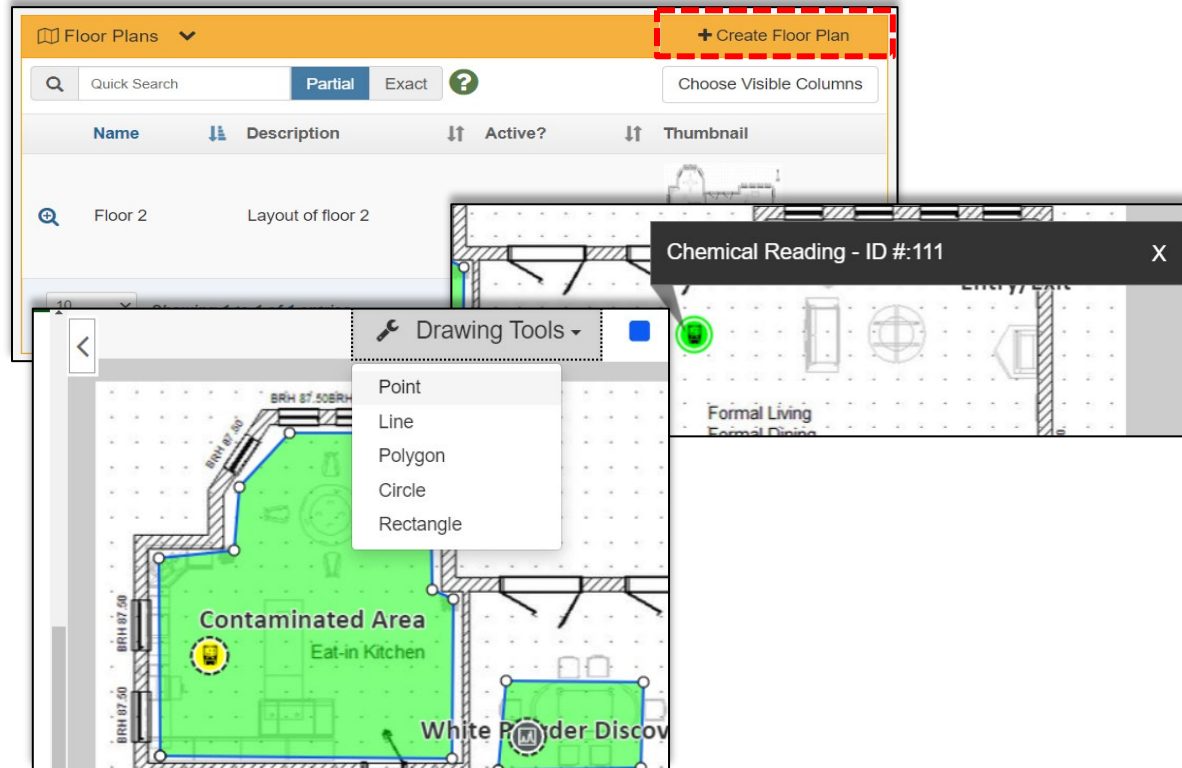
10 [Showing 1 to 1 of 1 entries](#) [Previous](#) [1](#) [Next](#)

Documents > [Manage](#)

Contacts >

# Add Floor Plans

- Add a **floor plan** to a facility to plot data on the plan and annotate it with drawing tools
- Add floor plans from either the website OR the mobile application
- Other features: “bulk move” data point locations, transfer data to new floor plan



The screenshot displays the ChemResponder software interface. At the top, there is a 'Floor Plans' dropdown menu and a '+ Create Floor Plan' button highlighted with a red dashed box. Below this is a search bar with 'Quick Search' and 'Partial Exact' filters, and a 'Choose Visible Columns' button. A table lists floor plans with columns for Name, Description, Active?, and Thumbnail. The main area shows a floor plan for 'Floor 2' with a 'Layout of floor 2' thumbnail. A 'Drawing Tools' menu is open, listing options: Point, Line, Polygon, Circle, and Rectangle. A 'Chemical Reading - ID #:111' dialog box is visible over the plan, and a green circle indicates a data point on the 'Eat-in Kitchen' area. Other labels on the plan include 'Contaminated Area', 'White Powder Discov', and 'Formal Living Formal Dining'.

# Add Floor Plans

Name the floor plan, add description, and upload image file or PDF. You can do this from either the website or mobile application.

## Add Floor Plan to Facility Smith & Sons Fertilizer Warehouse

[Save Changes](#) [Cancel](#)

\* Indicates required field

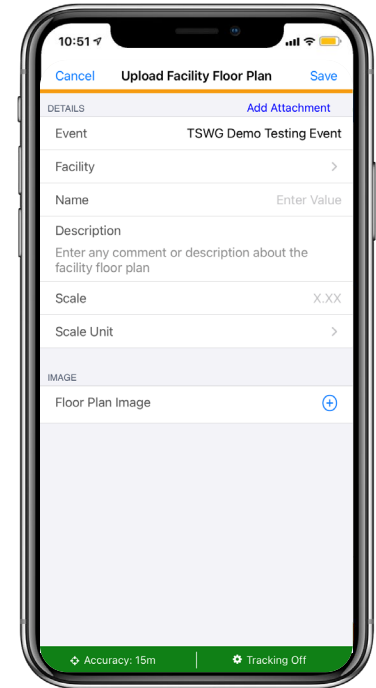
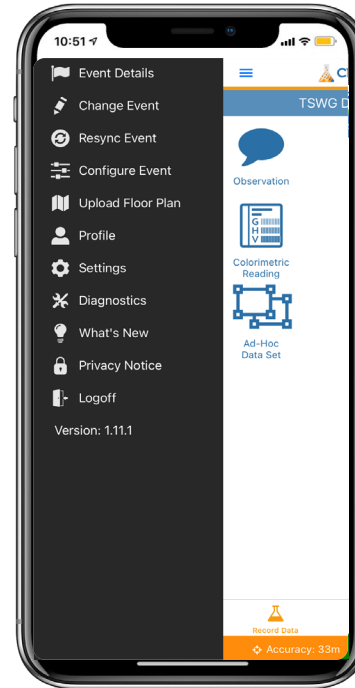
### General Information

**Name \***  
Enter the floor plan name

**Description**  
Description of the floor plan

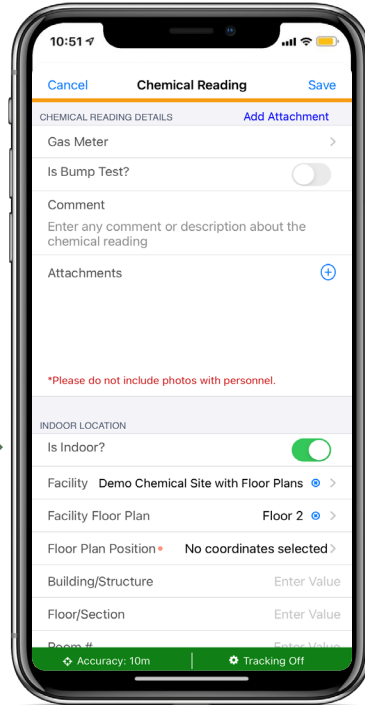
**Active?**

**Floor Plan \***  
No file chosen [Choose File](#)

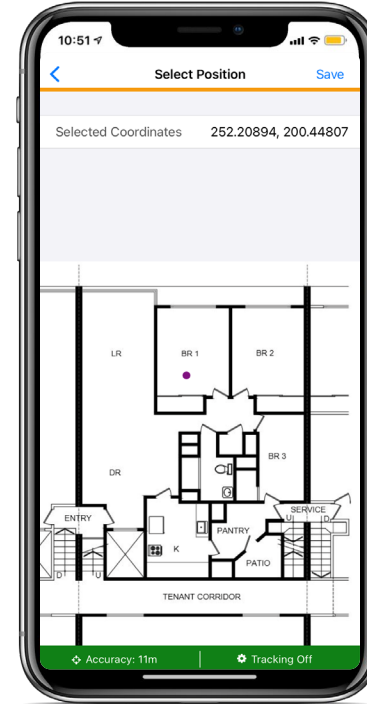




# Collect Data on Floor Plans



Select "Is Indoor"  
and choose facility  
and floor plan



Choose location  
on floor plan for  
plotting the  
data point

# View Data on Floor Plan

From website,  
view data  
points plotted  
on floor plan

Note that all  
details are  
shown about  
the data point

**Quick Details**

**Chemical Reading - ID #:110**

**ID #:** 110

**Date:** 12/12/2019 08:47

**Field Team:** N/A

**Collected By:** Duling, Sean - DCO

**Recorded By:**  
Duling, Sean - CBTech, CBT Training, DCO, CBT Training - R and C

**Data Source:** Website

**Indoor?:** Yes

**Floor Plan Location:** 86.0, 208.0 pixels

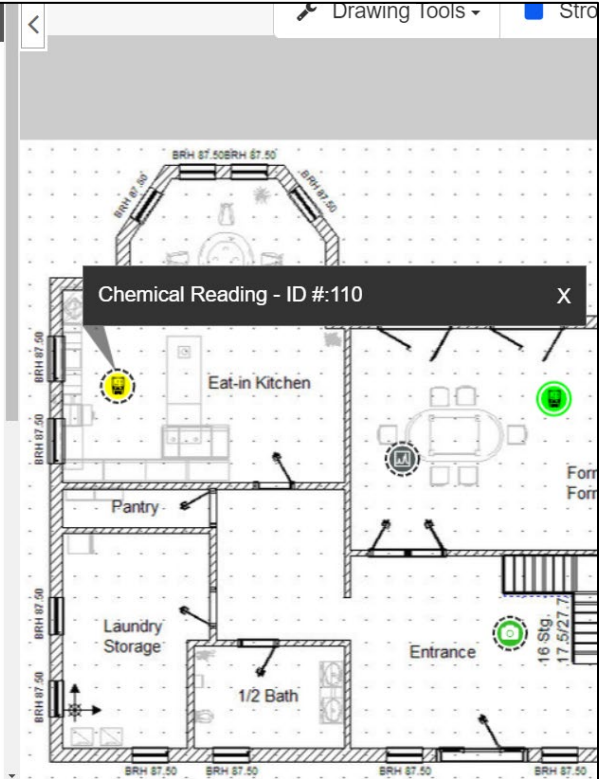
**Floor Plan Dimensions:** --

**Equipment:**  
Generic Multigas Meter n/a - SN#: generic\_multigas\_meter

**Passed Approved Review?:** No

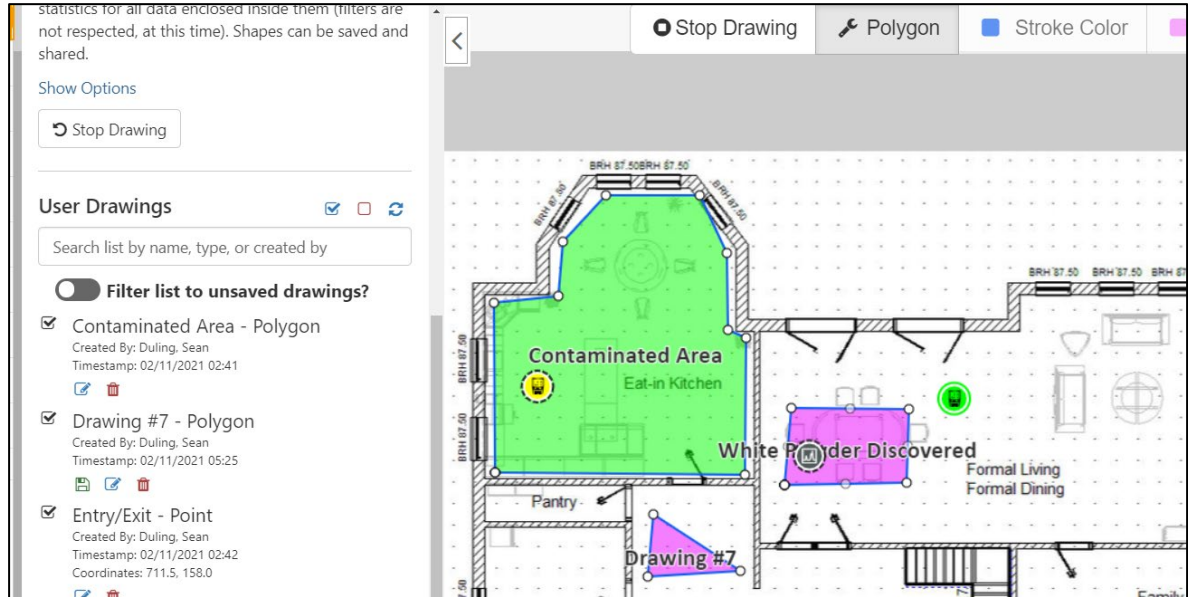
**Flags:** None

**Readings:**  
Generic Carbon Monoxide Sensor n/a - SN#: generic\_carbon\_monoxide\_sensor (10 Parts Per Million)  
Generic Hydrogen Sulfide Sensor n/a - SN#: generic\_hydrogen\_sulfide\_sensor (0 Parts Per Million)  
Generic LEL Sensor n/a - SN#: generic\_lel\_sensor (1 Percent)  
Generic Oxygen Sensor n/a - SN#:



# Drawing Tools on Floor Plan

Annotate the indoor floor plan with Drawing Tools; add notes, points, shapes, etc.



The screenshot displays the ChemResponder interface for drawing on a floor plan. On the left, a sidebar contains a 'User Drawings' list with the following items:

- Contaminated Area - Polygon  
Created By: Duling, Sean  
Timestamp: 02/11/2021 02:41
- Drawing #7 - Polygon  
Created By: Duling, Sean  
Timestamp: 02/11/2021 05:25
- Entry/Exit - Point  
Created By: Duling, Sean  
Timestamp: 02/11/2021 02:42  
Coordinates: 711.5, 158.0

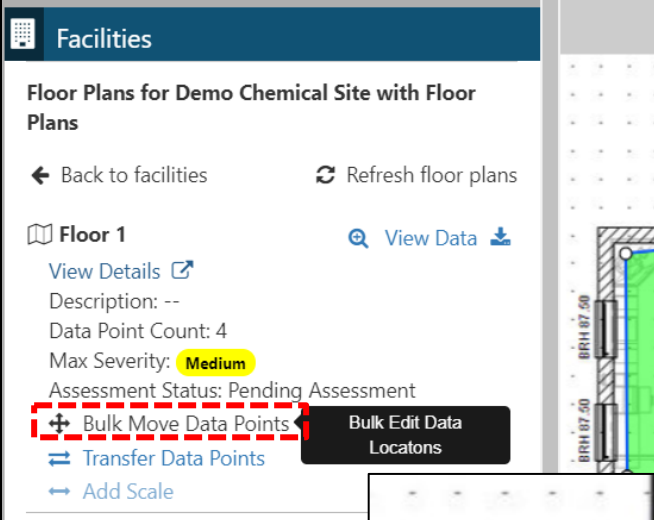
The main floor plan view shows several annotations:

- A green polygon labeled 'Contaminated Area' with a yellow biohazard symbol, located in the 'Eat-in Kitchen' area.
- A purple polygon labeled 'White Powder Discovered' in the 'Formal Living' area.
- A purple triangle labeled 'Drawing #7' in the 'Pantry' area.
- A green point labeled 'Entry/Exit' near the 'Formal Dining' area.

At the top of the drawing area, there is a toolbar with buttons for 'Stop Drawing', 'Polygon', and 'Stroke Color'.

# Bulk Edit Locations

“Bulk Move Data Points” lets you “click and drag” the data point locations on the floor plan to change their locations



The screenshot shows the 'Facilities' section of the ChemResponder interface. Under 'Floor Plans for Demo Chemical Site with Floor Plans', there is a 'Floor 1' section. The 'Bulk Move Data Points' option is highlighted with a red dashed box. A black callout box labeled 'Bulk Edit Data Locations' points to this option. Below the callout, a zoomed-in view of a floor plan shows a green dashed circle representing the 'Data point's original location' and a blue circle with a plus sign representing the 'New location for data point'. The floor plan also shows an 'Entrance' and a staircase labeled '16 Stg.' and '17.5/27.7'.


# Transfer to New Floor Plan

Transfer data points from one floor plan to another. Potential use case: initial floor plan is a rough sketch of the layout. As response endures, better floor plan becomes available and you want to move points to the new drawing.

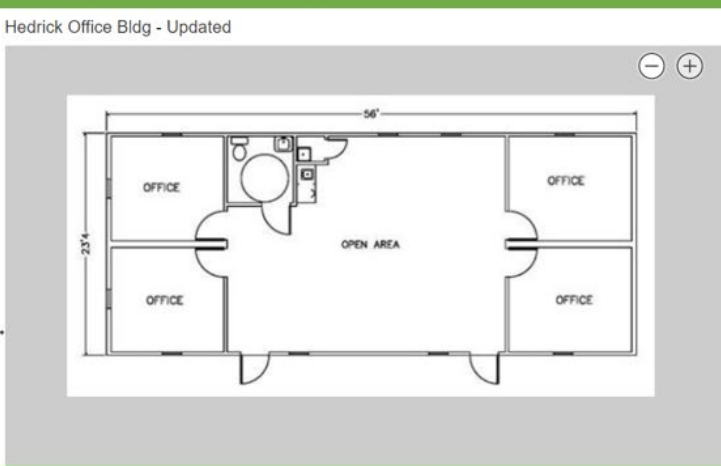
Data Point Transfer
≡ Move All

Use the interface below to move data from the source floor plan and the destination floor plan. Either move all data points at once using the "Move All" button, or click on data points individually to open the infobox and move each. Once data is moved to the destination floor plan, you can then drag the points to adjust their location. By default, data points that have been moved to the destination will not show on the source floor plan. Use the "Display Moved Data Points on Source Floor Plan?" filter to show those moved data points source location. They will be shown with a + icon. Pending moves will show in the list above, and each can be individually undone, or you can undo all using the "Undo All" button.

Hedrick Office Bldg

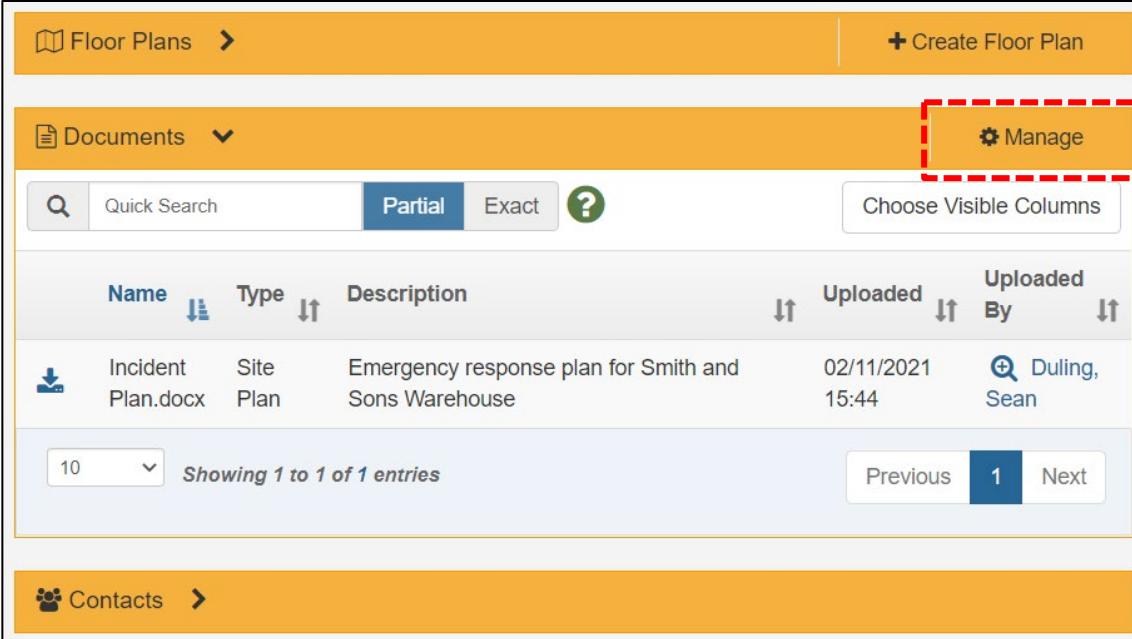


Hedrick Office Bldg - Updated



# Add Documents to Facility

Next: view, add and manage documents for your facility (e.g. area plans, site maps, emergency response plans)




The screenshot displays the 'Documents' management interface. At the top, there is a navigation bar with 'Floor Plans' and a '+ Create Floor Plan' button. Below this, the 'Documents' section is active, featuring a search bar with 'Quick Search' and filters for 'Partial' and 'Exact'. A 'Manage' button with a gear icon is highlighted with a red dashed box and a green arrow pointing to it from the right. Below the search bar is a table with columns for Name, Type, Description, Uploaded, and Uploaded By. The table contains one entry: 'Incident Plan.docx' (Site Plan) for 'Emergency response plan for Smith and Sons Warehouse', uploaded on '02/11/2021 15:44' by 'Duling, Sean'. At the bottom of the table, there is a pagination control showing 'Showing 1 to 1 of 1 entries' and 'Previous 1 Next'.

Name	Type	Description	Uploaded	Uploaded By
Incident Plan.docx	Site Plan	Emergency response plan for Smith and Sons Warehouse	02/11/2021 15:44	Duling, Sean

# Add Documents to Facility

- Accepted file types: Word, Excel, PPT, PDF, image files (jpg, png, jpeg), video files (mp4), GIS files (kml/z), others

 **Manage Facility Documents** Smith & Sons Fertilizer Warehouse

To add a document to the facility, click the Add button. [+ Add Document](#)



Add Document ✕

**File \***  
Area Plan\_Smith and Sons.pdf [Change](#) [Clear](#)

**File Name \***  
Area Plan\_Smith and Sons ✓

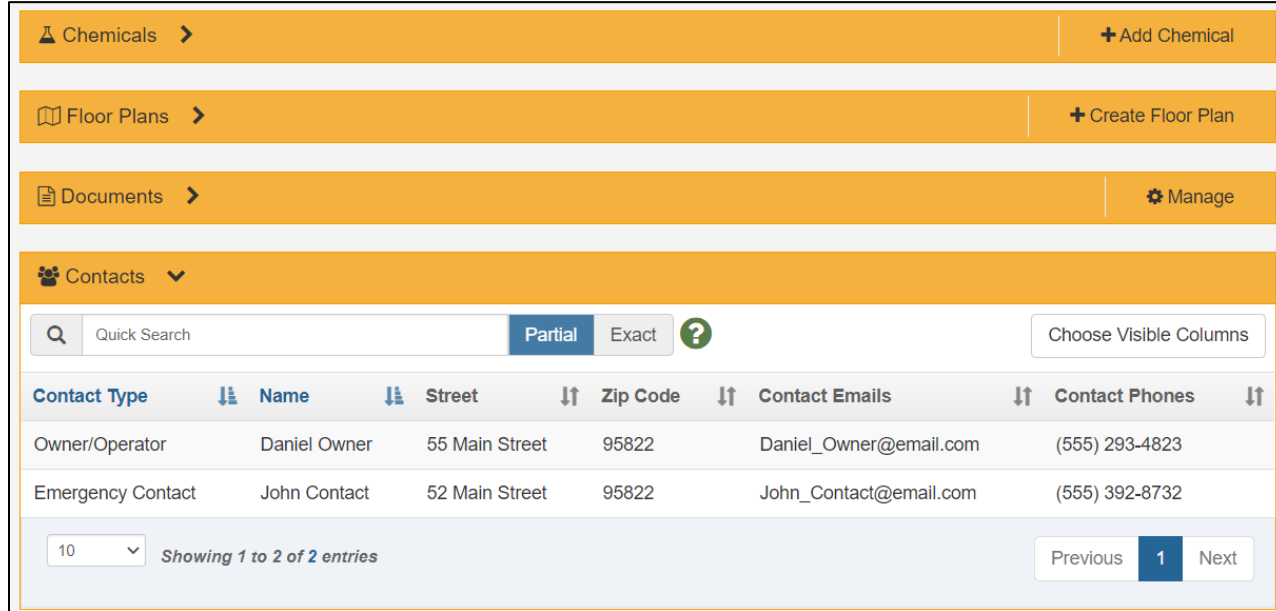
**Description**  
Area Plan for Smith and Sons Warehouse

**Type \***  
Site Plan ▼

[→ Continue](#) [↺ Cancel](#)

# Add Contacts to Facility

- Next: Add contacts to the facility



Chemicals > + Add Chemical

Floor Plans > + Create Floor Plan

Documents > Manage

Contacts v

Quick Search Partial Exact ? Choose Visible Columns

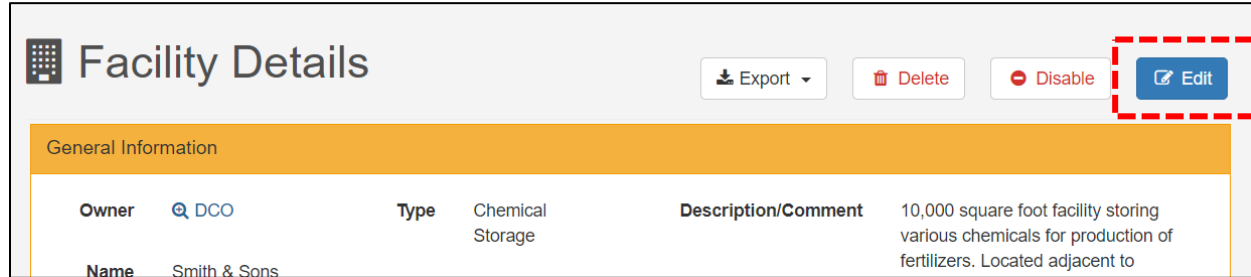
Contact Type	Name	Street	Zip Code	Contact Emails	Contact Phones
Owner/Operator	Daniel Owner	55 Main Street	95822	Daniel_Owner@email.com	(555) 293-4823
Emergency Contact	John Contact	52 Main Street	95822	John_Contact@email.com	(555) 392-8732

10 Showing 1 to 2 of 2 entries Previous 1 Next



# Add Contacts to Facility

- Edit the facility information
- Scroll down to “Contacts” section
- Click “Add Contact”



The screenshot shows the 'Facility Details' page. At the top right, there are four buttons: 'Export', 'Delete', 'Disable', and 'Edit'. The 'Edit' button is highlighted with a red dashed box. Below the buttons is a section titled 'General Information' with a yellow header. It contains a table with the following data:

Owner	Type	Description/Comment
DCO	Chemical Storage	10,000 square foot facility storing various chemicals for production of fertilizers. Located adjacent to
Smith & Sons		



The screenshot shows the 'Contacts' page. At the top right, there is a '+ Add Contact' button highlighted with a red dashed box. Below it is a search bar and a 'Choose Visible Columns' button. The main content is a table with the following columns: Contact Type, Name, Street, Zip Code, Contact Emails, and Contact Phones. The table contains one entry:

Contact Type	Name	Street	Zip Code	Contact Emails	Contact Phones
Owner/Operator	Daniel Owner	55 Main Street	95822	Daniel_Owner@email.com	(555) 293-4823

At the bottom, there is a dropdown menu set to '10', the text 'Showing 1 to 1 of 1 entries', and navigation buttons for 'Previous', '1', and 'Next'.

# Add Contacts to Facility

Add Contact ✕

**Contact Type \***  
Emergency Contact

**Contact Name \***  
John Contact

**Business Address \***  
52 Main Street

Building / Suite

Sacramento

California ✕

Zipcode

United States ✕

Save and add any number of contacts at the facility level

**Contacts** ▼

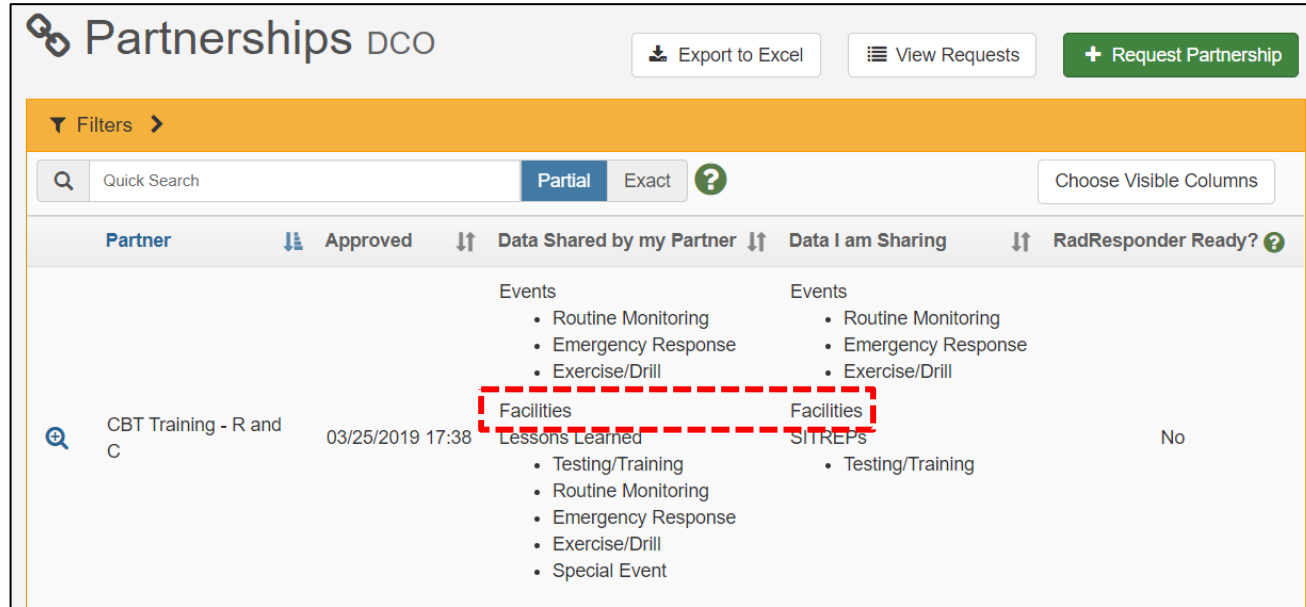
Partial Exact ? Choose Visible Columns

Contact Type	Name	Street	Zip Code	Contact Emails	Contact Phones
Owner/Operator	Daniel Owner	55 Main Street	95822	Daniel_Owner@email.com	(555) 293-4823
Emergency Contact	John Contact	52 Main Street	95822	John_Contact@email.com	(555) 392-8732

10 Showing 1 to 2 of 2 entries Previous 1 Next

# Share Facilities with Partners

Seamlessly share facilities with your partners in ChemResponder



Partnerships DCO

Export to Excel View Requests Request Partnership

Filters

Quick Search Partial Exact ? Choose Visible Columns

Partner	Approved	Data Shared by my Partner	Data I am Sharing	RadResponder Ready?
CBT Training - R and C	03/25/2019 17:38	<ul style="list-style-type: none"><li>Events<ul style="list-style-type: none"><li>Routine Monitoring</li><li>Emergency Response</li><li>Exercise/Drill</li></ul></li><li>Facilities</li><li>Lessons Learned<ul style="list-style-type: none"><li>Testing/Training</li><li>Routine Monitoring</li><li>Emergency Response</li><li>Exercise/Drill</li><li>Special Event</li></ul></li></ul>	<ul style="list-style-type: none"><li>Events<ul style="list-style-type: none"><li>Routine Monitoring</li><li>Emergency Response</li><li>Exercise/Drill</li></ul></li><li>Facilities</li><li>SITREPS<ul style="list-style-type: none"><li>Testing/Training</li></ul></li></ul>	No

# New and Upcoming with Facilities

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- Add mixtures and their components to the chemical inventory at facilities
- DOT Hazard Classes and Fire Code Hazard Classes for chemicals
- Ability to bulk upload facilities to an organization
- Exploring other bulk upload/edit capabilities for facilities (APIs, exchange networks)
- Potential forthcoming enhancements based on findings from the CUPA Pilot...

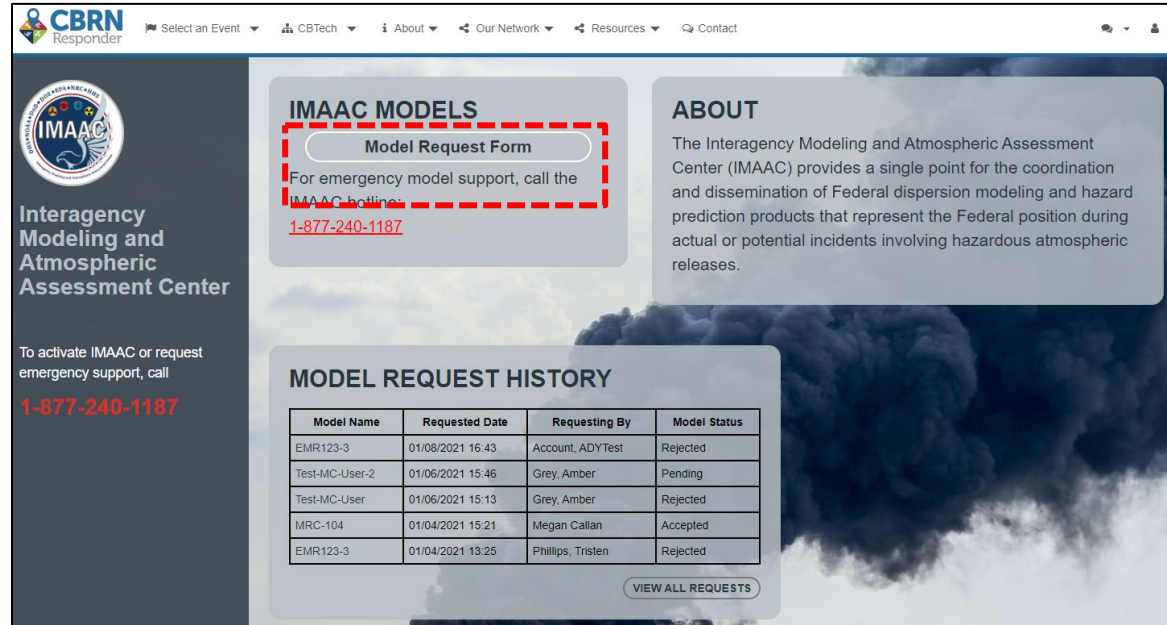
# IMAAC Portal

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- **Interagency Modeling and Atmospheric Assessment Center (IMAAC)** provides a **single point for the coordination and dissemination of Federal dispersion modeling and hazard prediction products** that represent the Federal position during actual or potential incidents involving hazardous atmospheric releases.
- Led by FEMA CBRN office; IMAAC Portal development funded by **DHS S&T NUSTL**
- **“IMAAC Portal”** will allow any CBRNResponder user to request IMAAC models, and allows **IMAAC to seamlessly push models and briefing products to users’ events** for exercises and/or real-world emergency events
- Development complete; release coming soon

# IMAAC Portal

IMAAC portal homepage with a “Model Request Form” and emergency number for real-world incidents



**CBRN Responder** | Select an Event | CBTech | About | Our Network | Resources | Contact

**IMAAC**  
Interagency Modeling and Atmospheric Assessment Center

To activate IMAAC or request emergency support, call **1-877-240-1187**

**IMAAC MODELS**  
Model Request Form  
For emergency model support, call the IMAAC hotline: **1-877-240-1187**

**ABOUT**  
The Interagency Modeling and Atmospheric Assessment Center (IMAAC) provides a single point for the coordination and dissemination of Federal dispersion modeling and hazard prediction products that represent the Federal position during actual or potential incidents involving hazardous atmospheric releases.

**MODEL REQUEST HISTORY**

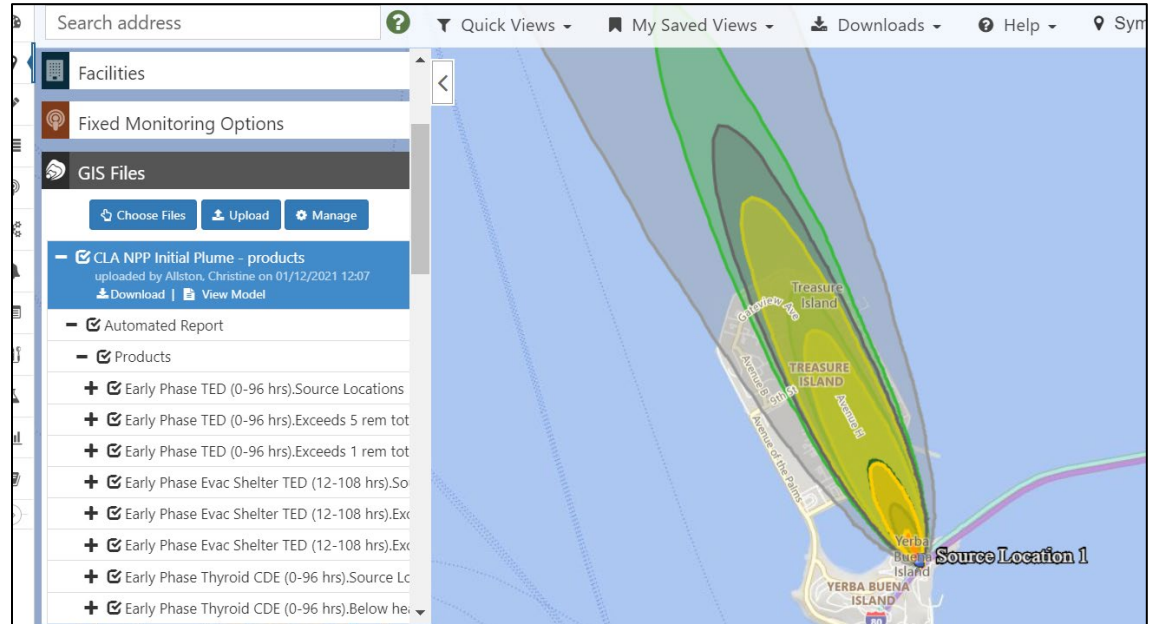
Model Name	Requested Date	Requesting By	Model Status
EMR123-3	01/08/2021 16:43	Account, ADYTest	Rejected
Test-MC-User-2	01/06/2021 15:46	Grey, Amber	Pending
Test-MC-User	01/06/2021 15:13	Grey, Amber	Rejected
MRC-104	01/04/2021 15:21	Megan Callan	Accepted
EMR123-3	01/04/2021 13:25	Phillips, Tristen	Rejected

[VIEW ALL REQUESTS](#)

\*These are forthcoming features not yet available to end-users but will be soon. The screenshots here are from the CBRNResponder development region.

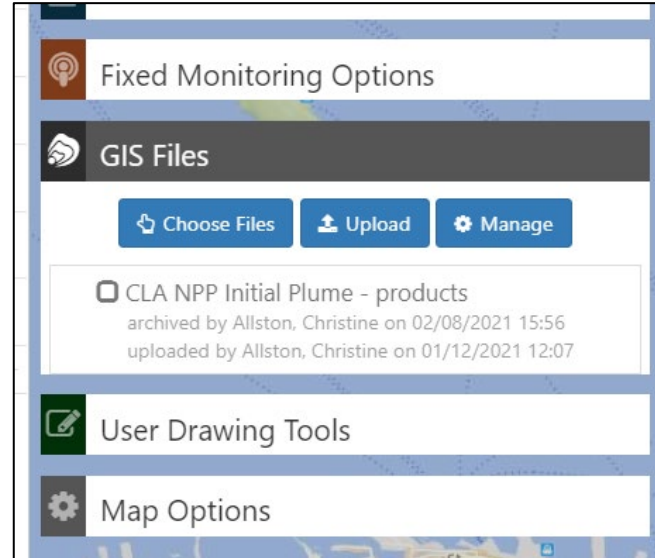
# IMAAC Portal

IMAAC can push products directly to GIS files section of the event map for immediate display



# IMAAC Portal

IMAAC can **archive** models that are outdated and supply new, updated models in real-time

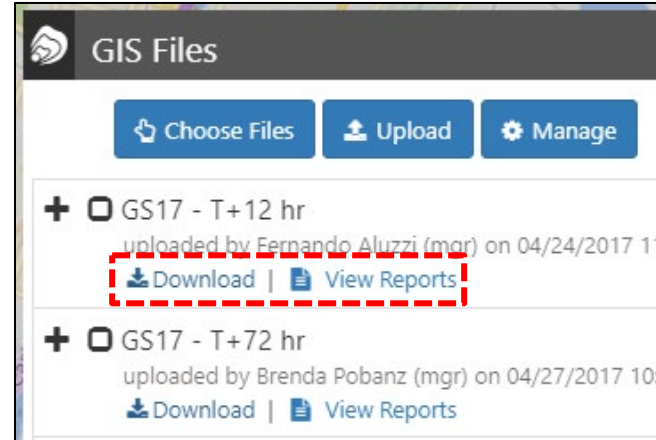


Grayed out text indicates model has been archived



# IMAAC Portal

- Download files for offline use
- “View Reports” to see briefing products supplied by IMAAC that accompany the GIS files



# IMAAC Portal

Briefing products viewable in PDF format

Product Reports ✕


- BriefProd#1\_Dangerous\_Fallout\_Zone
- BriefProd#2\_Hot\_Zone
- BriefProd#3\_Damage\_Response\_Zones
- BriefProd#4\_Fallout\_Casualties
  - BriefProd#4\_Fallout\_Casualties.pdf
- BriefProd#5\_Prompt\_Casualties
- BriefProd#6\_Evac\_Shelter\_Avoidable\_Dose
- BriefProd#7\_Relocation

✕ Close



**EXERCISE EXERCISE EXERCISE**

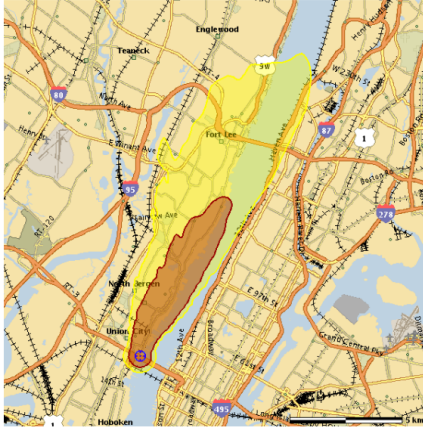
NOT APPROVED BY NARAC



National Nuclear Response Advisory Center

Gotham Shield 2017: Exercise  
(40.76670,-74.01759)  
Nuclear Detonation at 24 Apr 2017 14:00 UTC

**BP#4 Predicted Area for Fallout Casualties at 25 Apr 2017 02:00 UTC**  
Total external dose from radioactive fallout during first 12 hr of exposure leading to near-term (days to weeks) illness or death



**Fallout lethal to most without adequate shelter (exceeds 450 rad (4.5 Gy)). Best action is early shelter followed by informed evacuation to control exposure. Estimated Population: 68,500 Area: 12.4 km2 Extent: 8.1 km**

**Dangerous fallout levels can cause death, injury or illness (exceeds 100 rad (1 Gy)). Zone of greatest opportunity for life saving and injury reduction. Dose management for first responders essential. Estimated Population: 212,000 Area: 49.7 km2 Extent: 15.3 km**

**Notes:**

- The best initial action is to seek adequate shelter immediately.
- Sheltering with delayed evacuation is preferred, unless evacuation can be completed before fallout arrival.
- Highest radiation hazard during first hours, then rapidly declines.
- Expect few deaths or serious injuries due to radiation outside the maximum extent of these regions.
- Area size will increase rapidly the first few days, then vary slowly, as they show total dose accumulated since detonation.

**Assumptions:**

- Assumes 10 kt detonation at 0 ft elevation.
- Areas shown are model predictions based on an estimated source term; but no measurements yet available.
- Model assumes that no protective actions or other mitigations have been taken to decrease exposure.

Briefing Product for Public Officials  
Produced: 25 Jan 2017 16:34 UTC  
Check for updates

Production: nE26284.nC1

Technical Details: CMHT 702-794-1665  
Advice & Recommendations: A-Team 866-300-4374

**EXERCISE EXERCISE EXERCISE**

page 1 of 3

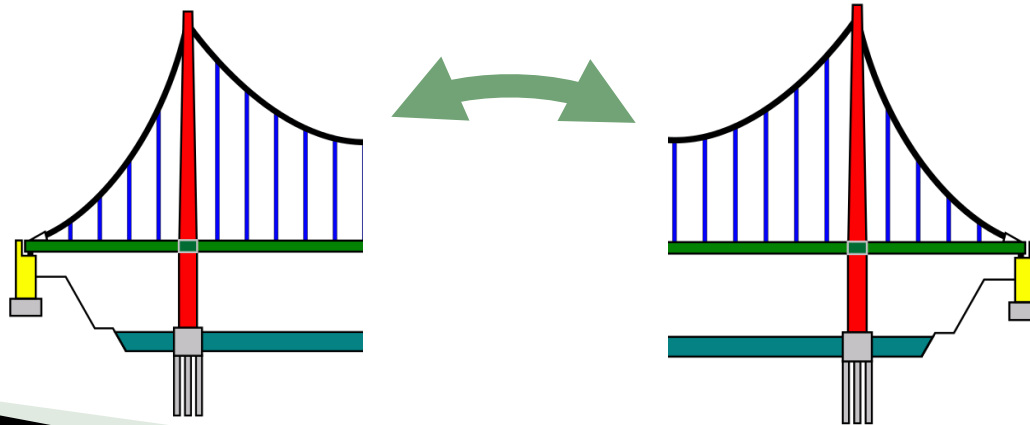
# APIs in ChemResponder

- API = Application Programming Interface
- Allows two applications to “talk” to one another
- Our APIs will allow detection equipment to “talk” to ChemResponder directly
- Implications: Users won’t enter data themselves; increases in efficiency and accuracy



# APIs in ChemResponder

- ChemResponder builds half of the integration; manufacturers build the other half
- Costs for developing and maintaining integrations with all instruments would be unsustainably high for ChemResponder
- ChemResponder builds half of the “bridge” and manufacturers build the other half



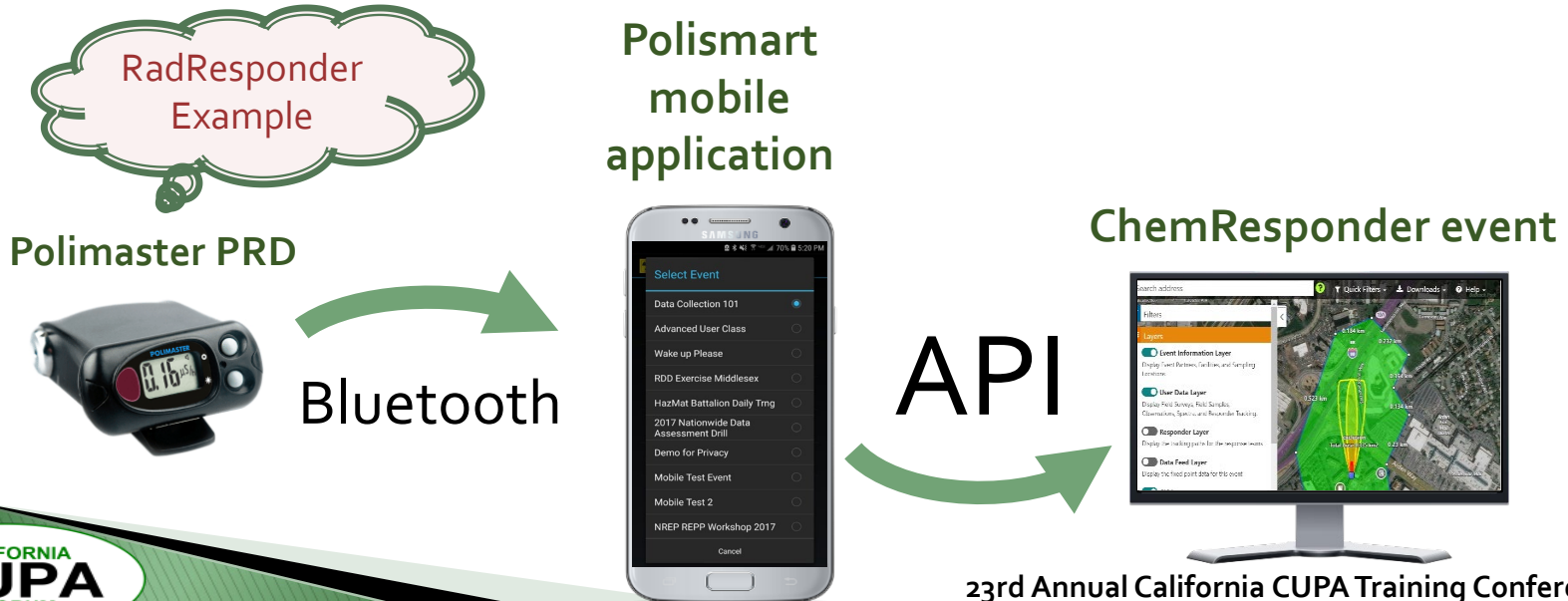
# APIs in ChemResponder

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- ChemResponder has three APIs. The API the manufacturer should use depends on the type of equipment to be integrated.
- **User Data API** (the user has some interface for entering data, like a mobile app or a screen on the device itself)
- **Equipment API** (equipment doesn't have an interface the user interacts with, like a detector on a truck)
- **Fixed Data API** (for stationary instruments collecting data at a single location over time)

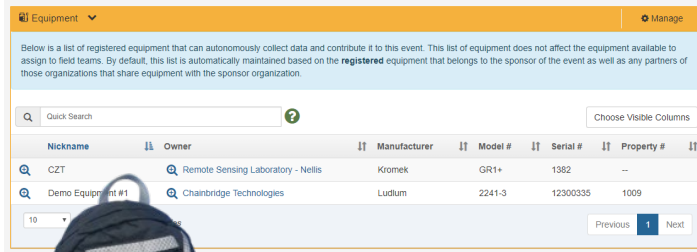
# APIs in ChemResponder

- Typically for handheld instruments (survey meters, PRDs, gas meters, PIDs)
- Manufacturer develops app. Detector telemeters data to app via Bluetooth, which sends it to ChemResponder



# APIs in ChemResponder

- For equipment that collects data autonomously and doesn't require a user interface (e.g. vehicle-mounted detector)
- Equipment is registered to an event. When equipment is turned on, it starts sending data to the event



Equipment Manage

Below is a list of registered equipment that can autonomously collect data and contribute it to this event. This list of equipment does not affect the equipment available to assign to field teams. By default, this list is automatically maintained based on the registered equipment that belongs to the sponsor of the event as well as any partners of those organizations that share equipment with the sponsor organization.

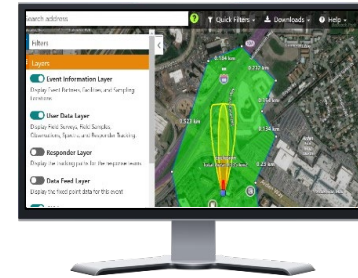
Quick Search Choose Visible Columns

Nickname	Owner	Manufacturer	Model #	Serial #	Property #
GZT	Remote Sensing Laboratory - Nellis	Kromek	GR1+	1382	--
Demo Equipment #1	Chanbridge Technologies	Ludlum	2241-3	12300335	1009

10 Previous Next

API

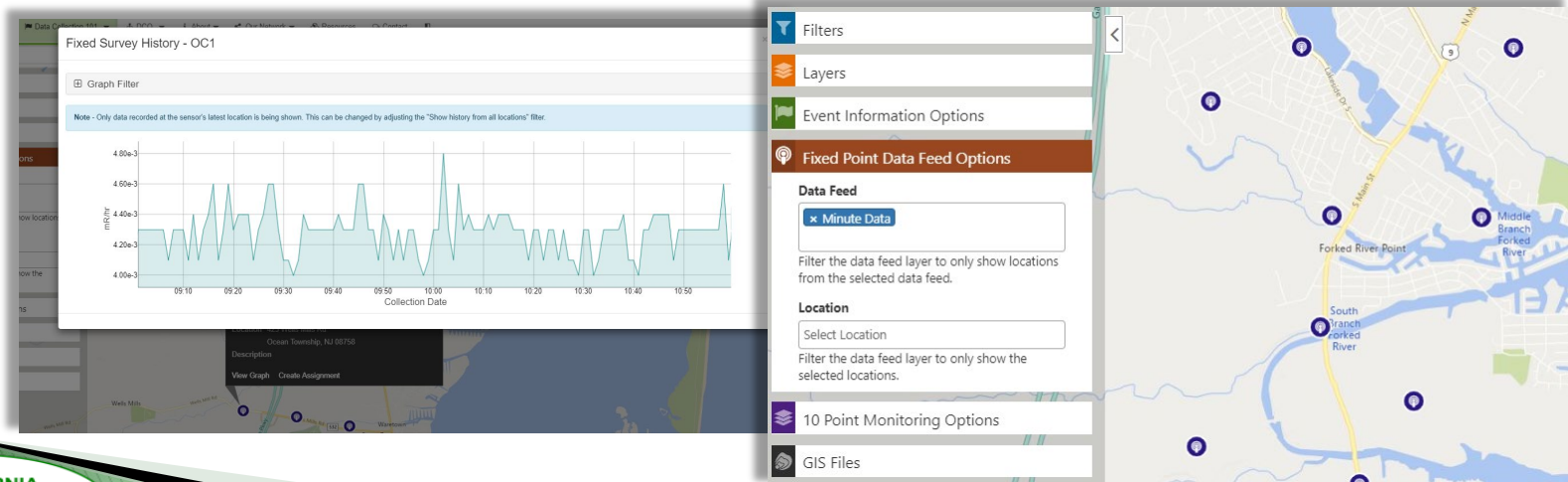
ChemResponder event



Detection equipment is registered to event on ChemResponder website

# APIs in ChemResponder

- Takes data from a stationary or deployable sensor
- Setup data feeds that can be displayed as a layer on any event to show fixed sensor data
- Example from RadResponder: New Jersey Department of Environmental Protection





# Post-Presentation Q&A

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- After our Session is over, we are offering a Zoom Room opportunity to continue the conversation started in this Session
- Near the end of the Session in the QandA box, we will post the Zoom Room link
- To join in the conversation, you will need to copy that link BEFORE we close out the Session and paste it to a new browser tab/window
- In this Zoom Room, you may meet with the Speaker, Moderator and/or fellow Attendees for a post meeting de-brief



# Any Questions?

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