



EPA REGION 9 (PACIFIC SOUTHWEST)



Ammonia Safety Day Coalition

THE TRIPOD

INDUSTRY, GOVERNMENT, AND PUBLIC SAFETY

INDUSTRIAL COMMAND

Incident Commander
Lead Responder
Notification Leader
Evacuation Supervisor

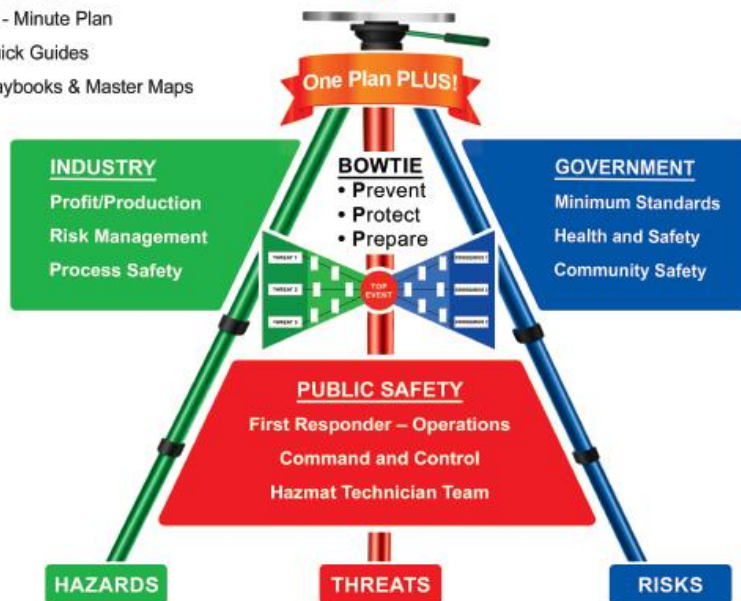
RESPONSE TOOLS

CAN Report
30 - Minute Plan
Quick Guides
Playbooks & Master Maps



ONE-PLAN RESPONSE

- D** Discovery-Escape Harm and Engage Command
- I** Initial Response-Emergency System Control
- S** Sustained Response-Entry and Control Plan
- T** Termination-Recover and Debrief



TRIPOD TEAMS ENSURE GOOD THINGS OCCUR
IF BAD THINGS HAPPEN



Prevent Them All or Stop Them Small™



AMMONIA SAFETY & TRAINING INSTITUTE

ASTI is a 501(c)(3) Non-Profit

EPA Region 9 – San Francisco and the Ammonia Safety & Training Institute (ASTI)

Tabletop – One Plan four stages of response

Critical Tasks to Manage Major Ammonia Emergencies



EPA Region 9 TTX Goals

Goal: Improve coordination, communication, and teamwork between local, state, and federal responders

Objectives: Demonstrate and evaluate TTX response to the 4 response stages through One Plan methodology for facility and transportation events

- Demonstrate compliance to new RMP requirements for improving readiness to respond to chemical emergencies e.g., West Texas
- Promote the “plan to plume” and teaming connection between Field Command, Community Emergency Management, and State/Federal agency support

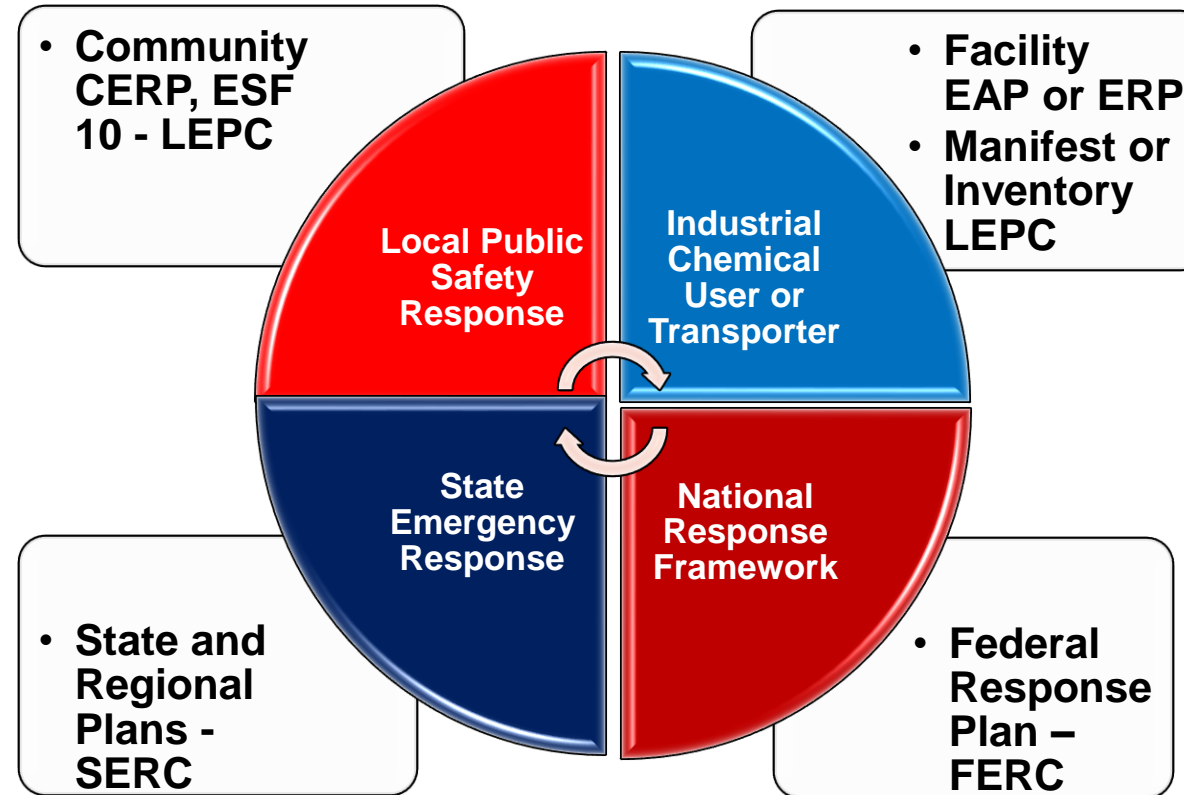


REGION 9 (PACIFIC SOUTHWEST)

January 28, 2022



Chemical Emergency Response Plans



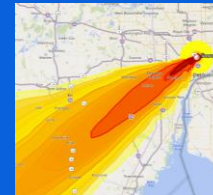
REGION 9 (PACIFIC SOUTHWEST)

January 28, 2022

Plan



Plume



TO

AND

Command/Coordinate





TTX Team

- **TTX Team:** Lead Controller, Facilitators, Systems Controllers, subject matter experts, documentation, and evaluation
- **Methods:** TTX Injects, Participant Player Response, and Audience opportunity to ask questions or give additional information
- **Documentation:** HSEEP federal guidance and format
- **Training Method:** TTX Controller progresses us through the four stages of response; the team will address parking lot issues at the end of the session



REGION 9 (PACIFIC SOUTHWEST)

January 28, 2022



TTX Players and Audience

- Facility
- HAZMAT/Fire
- Law Enforcement
- Emergency Management
- Medical
- Media/PIO
- IMAAC
- NOAA (weather/plume)
- EPA
- DHS
- Navy (or other military)



REGION 9 (PACIFIC SOUTHWEST)

January 28, 2022



Potential TTX Focus Areas

All-Hazards Response Readiness

- CAN Report Size-Ups and Situation Status Updates
- Timely and Early Notifications
- Pre-Event Readiness for Fixed Facilities in Your Jurisdiction
- Plan-to-Plume
- SOP, Best Practices, and ICS Forms
- Evacuate or Shelter In Place?



REGION 9 (PACIFIC SOUTHWEST)

January 28, 2022



Critical Issues in the First 30 Minutes

- **Sit-Stat - Emphasis on Escalating Factors**
- **Mitigate the Threats or Focus on Rescue**
- **Movement of Injured - Lateral and Upwind**
 - Methods of reducing impact
- **Readiness to Engage - PPE**
- **Ability to Contain the Release**



REGION 9 (PACIFIC SOUTHWEST)

January 28, 2022



Facility Chemical Emergency Plan (FCERP)



REGION 9 (PACIFIC SOUTHWEST)

January 28, 2022

30-Min Plan

30 Minutes Plan		

ERP





Highlighted EPA R9 Events

- Coconino County, Arizona: HAZMAT Transportation Event
- Guam: Chlorine Release
- Continuing Challenge: Anhydrous Ammonia Release
- Las Vegas, Nevada: Anhydrous Ammonia Release



REGION 9 (PACIFIC SOUTHWEST)

January 28, 2022

Scenario 1 Situation Report

7:00 am The Ammonia Operator and an Operator Trainee are doing the morning rounds and discover a minor ammonia odor (20 ppm) in the compressor room. The liquid supply line on an ammonia pump has signs of ice build-up near the liquid connection to the pump.

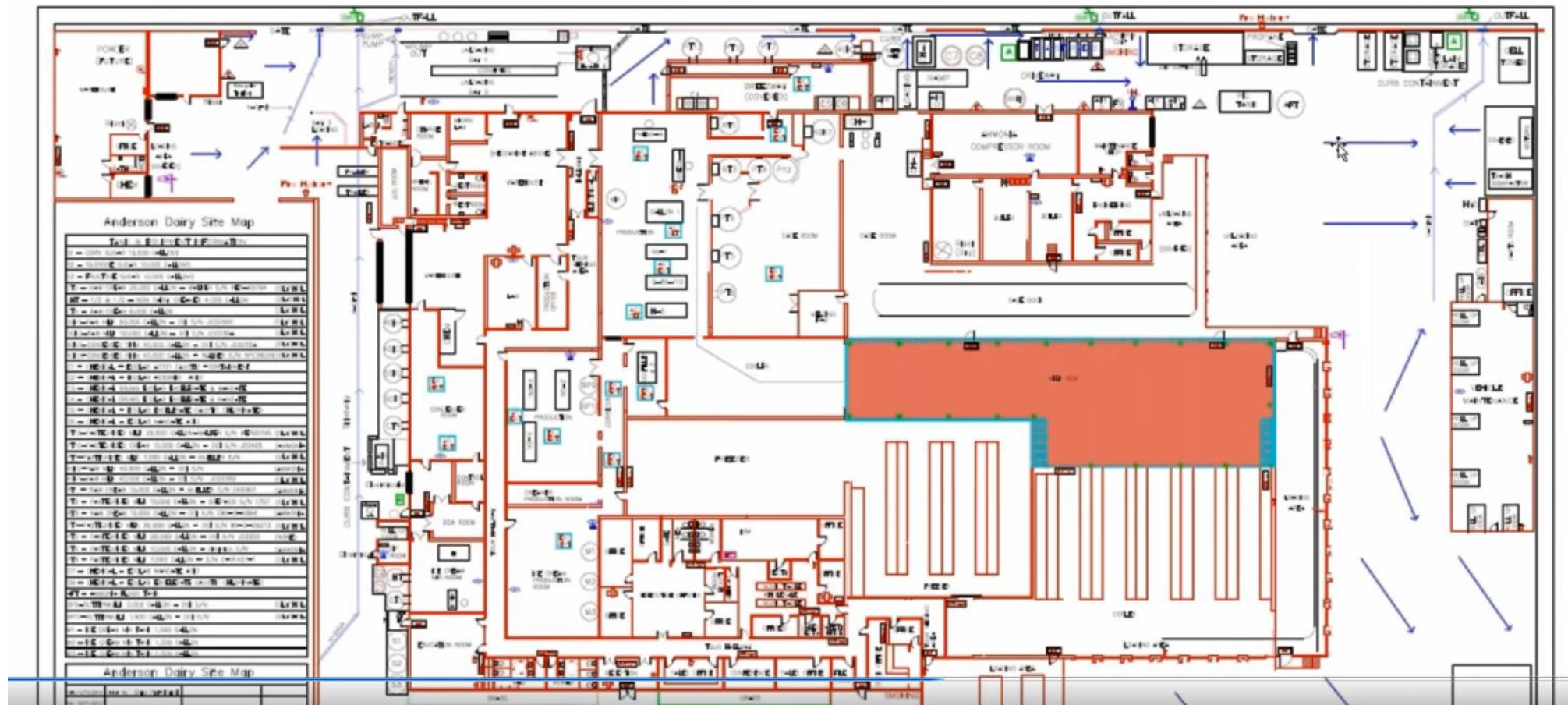
The Operator shows the Operator Trainee how to properly tighten the fitting nut on the liquid line and they continue their morning compressor room inspection.



REGION 9 (PACIFIC SOUTHWEST)

January 28, 2022

TTX Inject Example



REGION 9 (PACIFIC SOUTHWEST)

January 28, 2022

Audio Clip from Las Vegas TTXC



Plan-to-Plume



REGION 9 (PACIFIC SOUTHWEST)

January 28, 2022

THREAT ZONE:

Model Run: Heavy Gas

Red : 449 yards --- (20 ppm = AEGL-3 [60 min])

Orange: 1511 yards --- (2 ppm = AEGL-2 [60 min])

Yellow: 1.8 miles --- (0.5 ppm = AEGL-1 [60 min])

EXERCISE EXERCISE EXERCISE

Version: Initial Product



IMAAC

**Interagency Modeling and
Atmospheric Assessment Center**

EXERCISE

Ammonia Releases in Las Vegas, NV

(RFI 21-0997U)



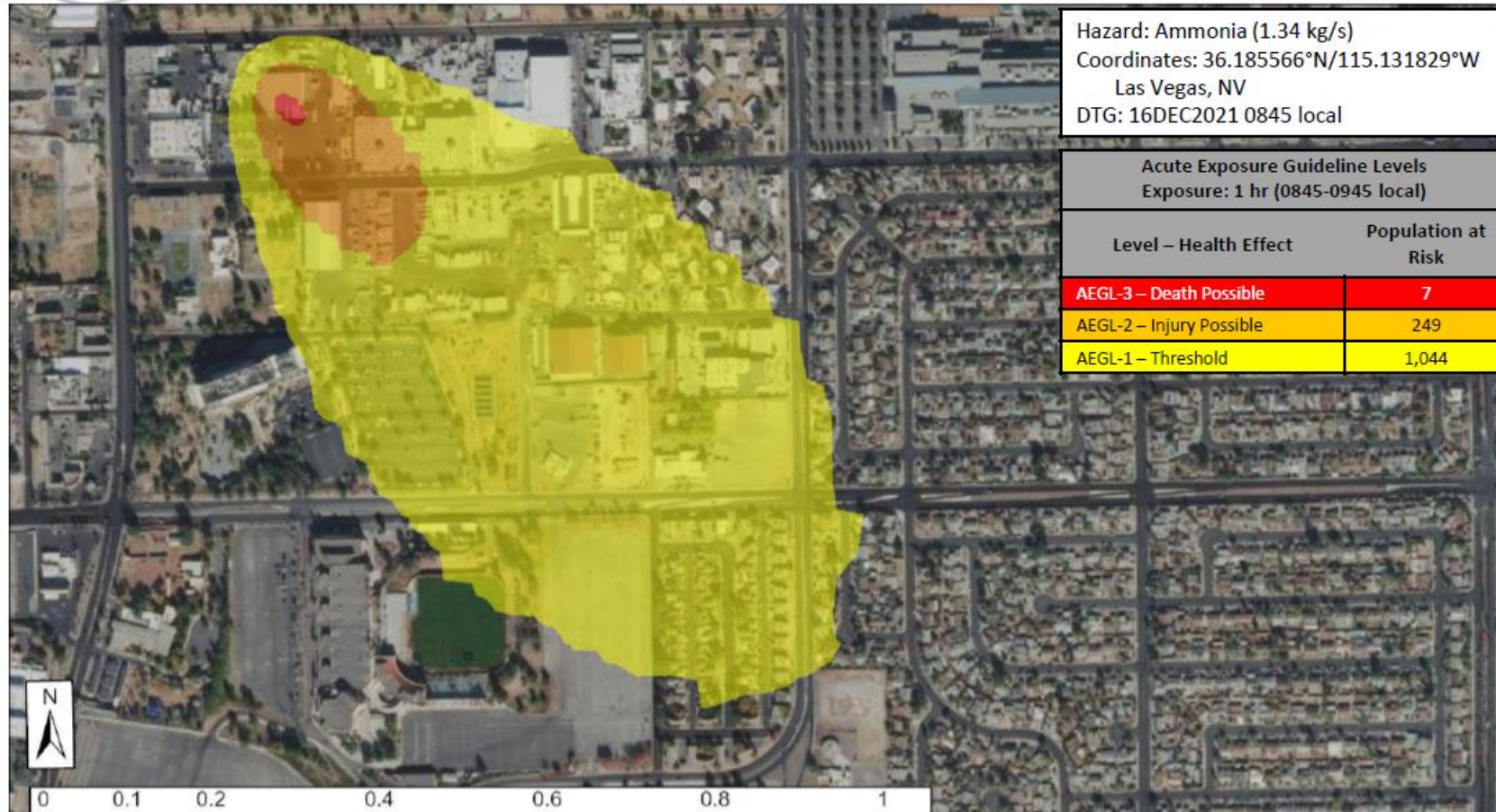
REGION 9 (PACIFIC SOUTHWEST)

January 28, 2022

Integrating IMAAC Into Exercises



AEGLs at 1 hr; 100,000 ppm



REGION 9 (PACIFIC SOUTHWEST)

January 28, 2022

Integrating IMAAC Into Exercises



Contact Information

EPA Region 9: Greg Bazley – Emergency Planning and Preparedness Coordinator, bazley.greg@epa.gov



REGION 9 (PACIFIC SOUTHWEST)

January 28, 2022