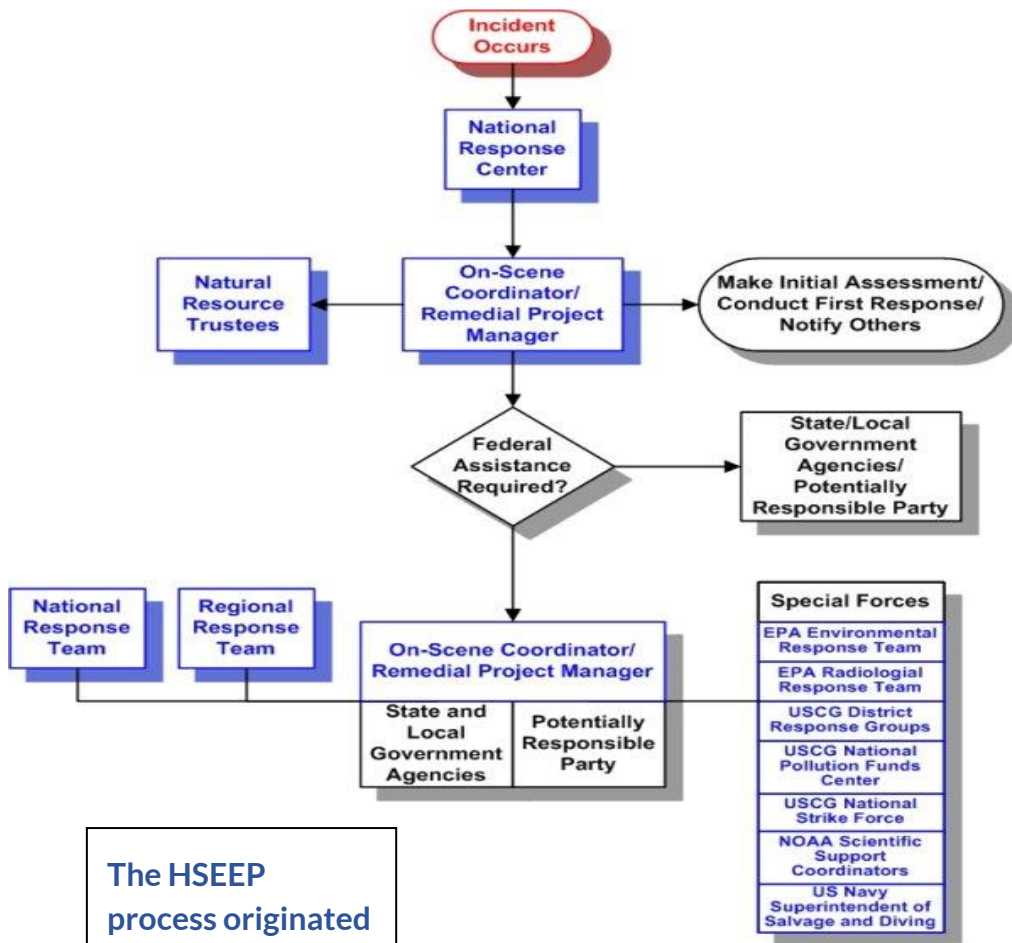


Ammonia Response CONOPS Guide

Emergency Response CONOPS start and end with the Authority Having Jurisdiction.



The local CONOPS must also follow the National and State Response Framework when using State and Federal Services.

The CONOPS expectations must also comply with EPA, OSHA, DOT, DHS, and CSB requirements.

The HSEEP process originated from the Dept. of Homeland Security recognition of the need for higher levels of CONOPS command (ICS) connection between local government responders.

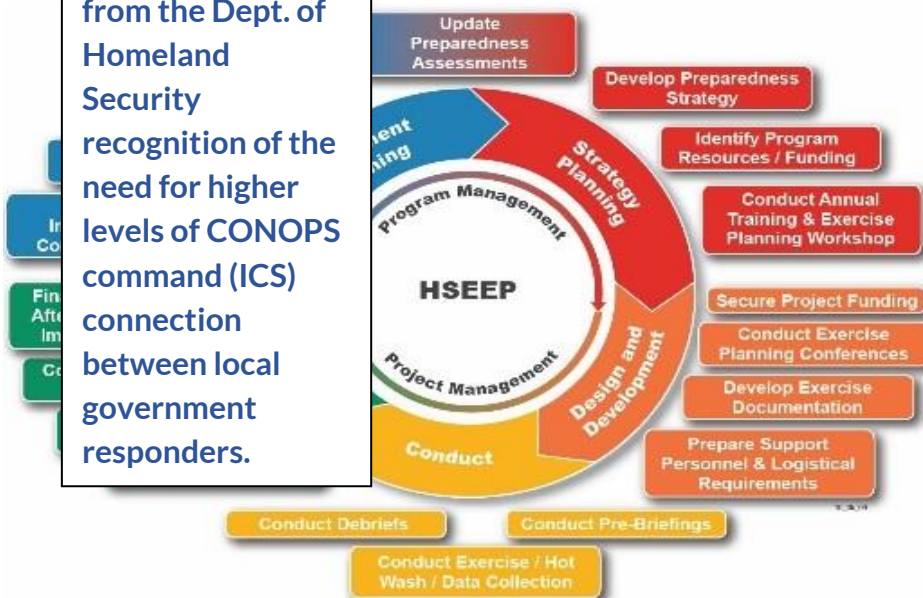


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Local, State, and Federal Ammonia Emergency Response CONOPS

The Left Side is Planning CONOPS and Right Side is Emergency Response CONOPS

Left Side: CONOPS Planning at #1
bottom left corner

Right Side: transitions to
Emergency Response CONOPS #3

Pre-Event Readiness

Local Area Tripod -
Area Plan Response -
NRC notification.

Tripod Responders

Industrial ammonia users,
fire/hazmat, law, health,
medical, public works, and
transportation CONOPS
using the One Plan - Four
stages of response as
depicted in this CONOPS.

**LEPC Tripod, Area Plan,
Regional, State, Federal
ESF 10, and FEMA's
ChemResponder**

2. Local AHJ/LEPC

**Working Group for FEMA
Complexity Levels 5-4-3-
2-1 Response utilizing the
One Plan Integrated
Contingency Plan
Response Logic.**

Ammonia
Emergency
CONOPS
begins and
ends with
the AHJ,
SERC and
NRF Plans.

1. National Response Framework - LEPC, SERC, FERC

**Authority Having
Jurisdiction (AHJ) Prevent,
Perpare, Respond, Recover
and debriefi to improve the
future ammonia response
CONOPS.**

4. State & Federal Support

FEMA Complexity 2-1
EPA - CAMEO Aloha
FEMA - NIMS & IMAAC
ChemResponder,
NWS - HYSPLIT
DHS - Priority
Telecommunications

Ammonia
Emergency
CONOPS
transitions
to, disaster
response
support.



Authority Having Jurisdiction (AHJ) Concept of Operations (CONOPS).

The **Ammonia Response CONOPS** is designed to support the local AHJ to improve the Tripod emergency response operations. Industrial ammonia users, public safety responders, and governmental leaders should use the Local Emergency Planning Committee (LEPC) to work collaboratively on a CONOPS approach that is supported by Tripod emergency responders.

The Ammonia Response CONOPS is operationally designed to be flexible for command and control operations. It's a guidance document and should NOT be considered to be a regulation or mandate. The CONOPS can be used for AHJ leadership to support the development of specific ammonia response policy if needed.

The **three legs of the Tripod** represent the collaboration between industry, government, and public safety to assess hazards e.g., **Bowtie diagram** and to continually improve prevention and mitigation efforts so that emergency events are **PREVENTED OR STOPPED SMALL**.



The **Response Compass** located at the head of the Tripod is a critical link to the CONOPS logic. When a loss of hazard containment event occurs and is not recognized and mitigated as a small event (FEMA level 4 or 5 complexity) an emergency event occurs. The command team must be ready and timely for engaging the four stages of response so that the emergency event is stopped small.

CONOPS Pre-Emergency Operational Readiness

The National Contingency Plan for local, state, and federal emergency response to hazardous materials focuses on a “Prevent them all of Stop them Small” using Prevention, Mitigation, Preparedness for Response and Recovery (PMPRR) strategy.

- **Prevention and Mitigation:** Perform a hazard assessment of all community and facility “**Hazard Zones**” (areas where chemical or high fire threat exists). The three legs of the Tripod should work together to continuously improve prevention and mitigation efforts.
- **Preparedness:** Emergency plans supply the preparedness details that the CONOPS is built from. The emergency planning alternatives range from a basic Emergency Action Plan that is designed for “operations level” engagement to Emergency Response Plans designed for Technician level entry into the “IDLH Hot Zone” - **Immediately Dangerous to Life and Health (IDLH) level (300 ppm)**.
- **Response:** CONOPS readiness to address containment and control of a loss of hazard containment e.g., fire, overpressure, or other ammonia threat; personal protective equipment (PPE); pre-event readiness; training events such as ammonia emergency simulation table top exercises (TTX); and emergency planning enhancements based upon debriefing near miss and emergency events that have occurred locally and throughout the world.
- **Recovery:** Following termination of the emergency event the Incident Commander will insure that the investigation and overhaul process is completed and termination orders delivered.
- **The Incident Commander** will return the control of the event to the community and facility leadership team. FEMA Complexity levels 1, 2, or 3 will likely require a “crisis management team” to ensure that

safe and effective clean-up and business restoration goals are achieved. A debriefing with the responders will be vital. The new federal Risk Management requirements require more emphasis on learning and training on PMPRR (Prevention, Mitigation, Preparedness, Response, and Recovery).

State and Local Community Emergency Planning: The National Response Framework was created by the National Response Team (NRT) and FEMA and is enforced by the U.S. Environmental Protection Agency (EPA). The requirements include the need for a State Emergency Response Commission (SERC) to engage a statewide hazardous materials response plan that includes the need for Local Emergency Planning Committees (LEPC) to ensure that the local AHJ agencies have created a local (city, county, or defined region) Hazardous Materials Response Area Plan.

NRT published "The National Response Team's Integrated Contingency Plan Guidance" in the Federal Register on June 5, 1996 (61 FR 28641). The Integrated Contingency Plan (ICP or "one plan") is intended to assist employers in preparing integrated emergency response plans that meet the requirements of multiple federal agency regulations with a single plan. The OSHA regulations addressed by the one-plan guidance include 29 CFR 1910.38(a), 1910.119, and 1910.120; EPA and DOT/US Coast Guard regulations are also covered under the plan. The NRT ICP Guidance is guidance only and does not relieve employers from their obligations under existing federal emergency response planning requirements. (See Appendix F, Paragraph II.G., for further discussion of the NRT ICP. Also see the NRT website at <http://www.nrt.org>.)

Section 303: Comprehensive Emergency Response Plans

Local and Tribal Emergency Planning Committee (LEPC and TEPC) Responsibilities [\[42 U.S.C. 11003\]](#) are responsible for developing and maintaining comprehensive emergency response plans and submitting these plans to the State or Tribal Emergency Response Commission (SERC or TERC). Local or Tribal Emergency Planning Committees (LEPCs or TEPCs) should review the plans annually, or more frequently as circumstances change within the community or at any facility.

Each emergency plan shall include (but is not limited to) each of the following:

1. **Identification of Section 302** regulated facilities, Extremely Hazardous Substance transportation routes, and additional facilities that add risk or have risk because they are located near high-risk facilities or transportation routes **e.g., natural gas facilities or hospitals.**
2. **Description of response procedures** for facility employers and operators, local emergency personnel, and local medical personnel.
3. **Designation of a community emergency coordinator/manager** and facility emergency coordinators.
4. Outline of release **notification procedures.**
5. Description of method for determining the immediate level of complexity of a loss of hazard containment and/or the emergency event and **prepare an assessment e.g., plume model that evaluates downwind/downstream affected areas or populations.**
6. Description of **community and industry resources available for ammonia response.**
7. Outline of **ammonia (not fire) evacuation plan expectations e.g.,** determining ground level and roof top wind direction and most appropriate escape plan to safe rally points.
8. Description of **the level of training and certification for system operators, emergency response and command team members, and medical personnel. See Appendix 3**

9. **Emergency Medical Services:** Local and regional emergency medical services that range from triage, treatment, decontamination, transport, hospitalization, handling multi-casualty, specialty care, and hospital surge overload. **See Appendix 2 for details.**
10. Description of methods and schedules for **exercising the emergency plan and certification of command team members.**

Industrial Facility Emergency Planning: OSHA and EPA anhydrous ammonia General Duty threshold planning requirement is 500 pounds (~100 gallons). This triggers compliance with local, state, and federal emergency plans, training requirements, and risk management plan requirements.

Anhydrous ammonia is considered to be an Extremely Hazardous Material. Facilities with over 10,000 pounds of ammonia are subject to higher standards for process safety and emergency planning. The LEPC adopted Ammonia Response CONOPS would apply to all ammonia users within the AHJ boundaries. This would aid in the **General Duty compliance** requirements for all ammonia users (regardless of size).

Addressing an Emergency Planning Challenges

Response Actions Expected for Emergency Action Plan and Emergency Response Plan.

OSHA and EPA give industrial ammonia facility employers the choice of using two different types of emergency plans for dealing with an ammonia emergency.

1. Emergency Action Plan (EAP) requires basic life safety protocols for assigned facility employees to address critical life safety measures without entry into an Immediately Dangerous to Life and Health (IDLH) Hot Zone.

2. Emergency Response Plan (ERP) requires all of the EAP requirements plus the readiness requirements **that allows** for the responders (facility and public safety) to **enter the IDLH Hot Zone and Isolation Zone to contain and control the ammonia emergency event.**

The Emergency Action Plan Gap Challenge: Many ammonia industrial leaders and some regulatory inspectors have miss-interpreted the Emergency Action Plan requirements means that an employer must enforce a “non-response- hands off” option whereby facility operators are not allowed to take any form of emergency action to reduce the threat and/or advise incoming responders on emergency mitigation measures.

October 31, 2022 the EPA clarifies the need for an Emergency Response Plan:

<https://www.epa.gov/rmp/who-must-develop-emergency-response-program>

EPA recognizes that, in some cases (particularly for retailers and other small operations with few employees), it may **not be appropriate for employees to conduct response operations for releases of regulated substances.** For example, it would be inappropriate, and probably unsafe, for an ammonia retailer with only one full-time employee to expect that a tank fire could be handled without the help of the local fire department or other emergency responder. **EPA does not intend to force such facilities to develop emergency response capabilities for entry into an IDLH hot zone.** Therefore, the **owner or operator of a stationary source whose employees will not respond to (enter IDLH) to address an accidental releases of regulated substances need not comply with §68.95 provided that:**

- For stationary sources with any regulated toxic substance held in a process above the threshold quantity, **the stationary sources must be included in the community emergency response plan prepared under EPCRA.**

- **For stationary sources with only regulated flammable substances** held in a process above the threshold quantity, the owner or operator must coordinate response actions with the local fire department.
- **Appropriate mechanisms are in place to notify emergency responders when there is a need for a response (§68.90(b)).**
- The owner or operator performs the **annual emergency response coordination activities required under §68.93.**
- **The owner or operator performs the annual notification exercises** required under §68.96(a).

OSHA addresses the employer obligations to address critical operations while working under an Emergency Action Plan.[1910.120\(q\)\(1\)](#)

Emergency response plan. An emergency response plan shall be developed and implemented to handle anticipated emergencies prior to the commencement of emergency response operations. The plan shall be in writing and available for inspection and copying by employees, their representatives and OSHA personnel. Employers who will evacuate their employees from the danger area when an emergency occurs, and who do not permit any of their employees to assist in handling the emergency, are exempt from the requirements of this paragraph if they provide an emergency action plan in accordance with 29 CFR 1910.38. **This does NOT mean that a employer is prevented from engaging emergency system control SOP and/or incidental control of an ammonia release (see item 5 below).**

29 CFR 1910.38 Emergency action plans

<https://www.osha.gov/sites/default/files/publications/osha3122.pdf>

1. Procedural, Program, and/or Equipment Requirements Identify possible emergency scenarios based on the nature of the workplace and its surroundings.
2. Prepare a written **emergency action plan. At a minimum, the plan must include:**
3. The fire and emergency reporting procedures;
4. Procedures for emergency evacuation, including the type of evacuation and exit routes;
5. **Procedures for those who remain to operate critical operations prior to evacuation;**
6. Procedures to account for employees after evacuation;
7. **Procedures for employees performing rescue and medical duties; and**
8. Names of those to contact for further information or an explanation about the plan.

Industrial Best Practice: In 2021 ASTI worked with the International Institute of Ammonia Refrigeration (IIAR) to create a **Critical Task Guidance for Ammonia Refrigeration System Emergency Planning**. The Critical Task Guidance includes recommendations related to Escape and System Control, Rescue, and Critical Task Training and Policy Guidelines. (see www.iiar.org)

Clyde Trombetas, the California State Manager of the Cal-OSHA Process Safety Management, and his staff participated in the review of the final draft of the IIAR Critical Training and Policy Guidelines. Cal-OSHA accepts the IIAR Critical Guidelines document as a best practice support for creating the critical tasks discussed in the document. **A federal OSHA team has created a set of proscriptive requirements such as lock-out-tag-out** that would add to the operator training requirements. The IIAR team is working on incorporating those recommendations into a second edition of the Guidance document.

Process Safety Criteria: [Standard Interpretations](#) Requirements for emergency response and planning under the Process Safety Management Standard. Richard E. Fairfax, **Director**
Directorate of Enforcement Programs interpretation letter <https://www.osha.gov/laws-regs/standardinterpretations/2003-06-24-0>

There may be small or incidental releases where an employer may elect to comply with 1910.38(a) instead of 1910.120. If the employer is not required to comply with 1910.120 and elects to comply with 1910.38(a), **they may want specific employees in the release area to control or stop minor emergencies or incidental releases. Per 1910.38(a), these actions** must be planned for in advance, and procedures must be developed and implemented. Pre-planning for handling incidental releases for minor emergencies in the process area needs to be done, appropriate equipment for the hazards must be provided, and training must be conducted for those **employees who will perform the emergency work before they respond to handle an actual small or incidental release. The employer's training program, including the Hazard Communication standard (29 CFR 1910.1200) training,** is to address the training needs for employees who are expected to handle incidental or minor releases when the employer complies with 1910.38(a). If employers decide to mobilize the available resources at the plant and have them respond to significant releases, then the employer must comply with 1910.120.

The operating procedures required by PSM include details about emergency system control as follows: <https://www.osha.gov/sites/default/files/publications/osha3132.pdf>

(f) Operating procedures.

(1) The employer shall develop and implement written operating procedures that provide clear instructions for safely conducting activities involved in each covered process consistent with the process safety information and shall address at least the following elements,.

(i) Steps for each operating phase:

(A) Initial startup;

(B) Normal operations;

(C) Temporary operations;

(D) Emergency shutdown including the conditions under which emergency shutdown is required, and the assignment of shutdown responsibility to qualified operators to ensure that emergency shutdown is executed in a safe and timely manner.

(E) Emergency Operations,

(F) Normal shutdown; and,

(G) Startup following a turnaround, or after an emergency shutdown,

(ii) Operating limits;

(A) Consequences of deviation; and

(B) Steps required to correct or avoid deviation.

(iii) Safety and health considerations:

(A) Properties of, and hazards presented by, the chemicals used in the process;

(B) Precautions necessary to prevent exposure, including engineering controls, administrative controls, and personal protective equipment;

(C) Control measures to be taken if physical contact or airborne exposure occurs;

Tampa Electric Company (TECO): In 2017 TECO was cited by OSHA inspectors for failure to properly respond to an ammonia release with self-contained-breathing-apparatus and Technician level emergency response protocol. TECO claimed that their trained operators used the TECO policy for mitigating the release while working outside of the IDLH. **TECO won their case with the OSHA Appeals Board. The Dept. of Labor appealed to the 11 Circuit Court and won that case.** The following link explains the outcome of the 11th Circuit Court decision. <https://www.law360.com/articles/1505215/11th-circ-says-tampa-electric-didn-t-violate-osh-guidelines>

Emergency Planning Support for Creating an Emergency Plan

Local AHJ Decision Tool Box of Ammonia Response CONOPS Resources

The intent is to provide the LEPC and the AHJ community with an understanding of the concept of operations that is accepted by the governing AHJ agency leadership.

The CONOPS should be considered is a One Plan **PMPRR** Tool Box that can be used to engage **P**revention, **M**itigation, **R**esponse and **R**ecovery the four stages of an emergency event.

AHJ members accept, amend, or reject the ten (10) core planning principles defined in the next pages AND supported with the five Appendix sections.

APPENDIX 1: FEDERAL, STATE, AND LOCAL RESPONSE

APPENDIX 2: REGULATORY LINK TO CONOPS

APPENDIX 3. EPCRA and NEW RMP REQUIREMENTS

APPENDIX 4: CONOPS OPERATIONS FORMS AND ACRONYMS

APPENDIX 5: CERTIFICATIONS AND QUALIFICATIONS

APPENDIX 6: AHJ CONOPS MEETINGS AGENDA

ASTI is creating Learning Management System (LMS) PPT and Video information that supports the explanation of each of the 10 CONOPS core planning principles presented on the next pages. ASTI trainers focus facility and public safety training and tabletop exercises on the ability for the response team to respond in accordance with their locally adopted CONOPS. The trainers will also provide student workbooks, and emergency plan support tools such as checklists, command boards, command team response PPE, and other PMPRR tools that are tuned to the local area CONOPS expectations.

1. FEMA Incident Complexity Levels as a basis for local response CONOPS

The local AHJ (LEPC) shall decide if they want to use the Incident Complexity Levels to categorize the levels of response planned for each Complexity Level. The emergency planning for each Type of incident Complexity Level would provide the local Tripod responders to establish resource and command response protocol for each of the five Complexity Levels. The evaluation criteria includes CIKR – Critical Infrastructure and Resources www.fema.gov/pdf/emergency/nrf/nrf-support-cikr.pdf

5. Incident Effect Indicators Summary Table

This table supports the Incident Effect Indicators listed in the above Incident Complexity Level Tables across all hazards and provides a basis for training to determine incident complexity. Users can identify indicators with ease of use in addition to the detail provided above.

Incident Complexity Level: Incident Effect Indicators Summary										
Type	Resistance to stabilization or mitigation	How long does it take for resources to meet incident objectives?	Effects on population immediately surrounding the incident	Length of incident effects	Evacuations necessary during mitigation	Adverse impact on CIKR	CIKR impact / mitigation measures	Coordination required with elected/ governing officials and stakeholder groups	Do conditions or actions that caused original incident persist?	Probability of cascading event or exacerbation of current incident
5	None	1-2 hours	Minimal	Minimal	Few or none	None	None	Minimal or none	No	None
4	Low	Several to 24 hours	Limited	Up to 24 hours	Few or none	Minimal	Uncomplicated within one operational period	Minimal or none	No	Low to none
3	Moderate	At least 24 hours	Moderate	Several days to over one week	Possible; may require shelter	Threatens, damages, or destroys property	Adverse; multiple operational periods	Some	Possibly	Medium
2	High	Several days	Significant	Several days to two weeks	Possible; may require shelter/ housing for several days to months	Threatens, damages, or destroys property	Destructive; requires coordination over multiple operational periods	Moderate, including political organizations	Possibly	High
1	High	Numerous operational periods	Significant	Two weeks to over a month	May require shelter/ housing for several days to months	Significantly threatens, damages, or destroys property	Highly destructive; requires long-term planning and extensive coordination over multiple operational periods	High, including political organizations	Yes	High

SAMPLE Facility Emergency Response Based upon Levels of Response

- FEMA classification Level between 5 and 4** – stable to low threat; controllable by first responders within an hour – single engine response and hazmat team Code 2.
- FEMA Complexity Level between 4 and 3** Low to Moderate Risk & Threat - contained, controlled, and terminated within 24 hours and moderate threat to community – Single engine and a hazmat response Code 3, Emergency Manager alerted, first responders request a plume model.
- FEMA Complexity Level 3** - Moderate risk and threat: Involving regional response for 24 hours or more to contain and control, terminate, and demobilize.
- FEMA Complexity Level 3 to 2** – Moderate to high threat e.g., major fire or high impact explosion that may require a local disaster proclamation and state and federal support.
- FEMA Complexity 2 to 1** – high risk and threat and significant impact to the community e.g., earthquake or high impact terrorist or storm event requiring local and State disaster proclamations could involve a nationally proclaimed disaster.

Appendix 1 explains the importance of the proper use of NIMS and the federal framework for proclaiming and abiding by the **Essential Function Support #10** is required to attain financial and resource support from State and Federal support services.

2. Facility Emergency Response Plan Expectations for Public Safety Response.

Ensure that the local CONOPS considers other locally adopted emergency plans such as AHJ **Hazardous Material Area Plan** and other mandated plans such as:

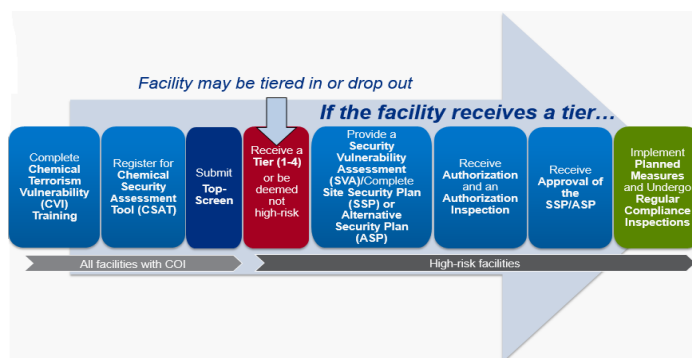
- ☐ **LEPC request of the status of ammonia facilities that are submitting the following:**
 - **Tier 1 or 2 Reports** indicating Emergency Action Plans

- **Tier 1 or 2 Reports** indicating Emergency Response Plans
- **Tier 1 or 2 Reports** indicating that includes a hazmat technician team

Chemical Facility Anti-Terrorism Standards

- High Interest CFATS

- **State and Federal connection to Essential Support Function hazardous material response support e.g., ESF 10 for hazmat response support (described in Appendix 1).**



☐ Agree, ☐ Hold, or ☐ Not Interested at this time ☐ Other:

Comments for future reference:

3. Triage, Decontamination, Medical and Health Considerations

Ensure that the medical and health concerns associated with an ammonia release is understood and prepared for by those vested in response readiness:

- Preparedness and Early Response Med/Health Considerations
- FIRST AID MEASURES, DECONTAMINATION

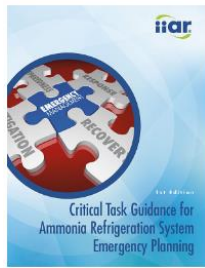
See Appendix 2 for details.

☐ Agree, ☐ Hold, or ☐ Not Interested at this time ☐ Other:

Comments for future reference:

3. Strategic Planning for Setting Response Levels for Low to Catastrophic Events

Go Big Early and Plan/Train to the Plume. The IC and command team operationally and safely mitigate and control the emergency event when it is small while also predicting escalating factors that require an early call for more resources...don't wait until you need support to call for it...plan forward.



Adopt Critical Tasks Readiness for Emergency Action Plan Response. Develop AHJ approved best practices for engaging critical tasks during the first responder actions completed in the Discovery and Initial Response stages. Reference the International Institute of Ammonia Refrigeration www.iar.org and open the “Store” link, select “Purchase Hard Copy Publications” link for the Critical Task Guidance recommendations.

The critical task first responder activities will add to the situational analysis that will provide a timely and effective transition to Sustained Response for Tech-Responder support.

☐ Agree, ☐ Hold, or ☐ Not Interested at this time ☐ Other:

Comments for future reference:

4. First Responder and Sustained Response Pre-Event Readiness Support

Clipboard Packet: For each Facility Command Team member and the first arriving public safety officer in charge and/or contractor. The first responder clipboard should have the following:

- ☐ **Master Map** showing the location of ingress and egress to the facility,
- ☐ **Hazard Zones (HZ)** which are areas within the facility that have high hazard systems and operations that
- ☐ **Command Post locations**
- ☐ **Shelter-in-Place and Rally point options for those who evacuate.**
- ☐ **Hazard Zone (HZ) location with sides of the building** labeled with the local Fire Department methodology: Alpha front/address side; Bravo Side is the left (clockwise) side of the Alpha side. Charlie Side back of building; and, Delta side is on the right side of the Alpha side.
- ☐ **Command forms created for each HZ are described in Appendix 3**
 - **CAN Report – Conditions, Actions, and Needs** size-up form between command team members.
 - **ICS 215a hazard assessment – Identifying** the leading and lagging indicators for each HZ and system information that would support the creation of a Plume Model e.g., the receiver tank capacity and compressor working pressures.
 - **ICS 201 Incident Action Plan (IAP) - Sets** the objectives, tasks, and safety readiness for a given operational period, that is generally not over 30 minutes per IAP.
 - **ICS 208 Safety Plan – Outlines the** overall safety concerns to include release characteristics, health impacts, decontamination, and medical treatment protocols.
 - **Emergency System Control Plan – given** the lagging and leading HZ indicators for system control to reduce the impact of a given release, overpressure, or other structural or system failure.

- ☐ **ASTI One Plan Playbooks** see <https://ammonia-safety.com/one-plan-response/> providing quick-guide, SOPs, maps, images, and PDF loadable forms that can be customized to the local CONOPS.
- ☐ **FEMA ChemResponder** www.fema.gov/sites/default/files/2020-07/fema_cbrn_chemresponder_fact-sheet.pdf A free service to public safety for setting up a situation status system for the overall response to a chemical, biological, or radioactive incident. Hosted by the local public safety responders who can invite the industrial facilities to join the platform.
- ☐ Other: _____

☐ Agree, ☐ Hold, or ☐ Not Interested at this time ☐ Other: _____

Comments for future reference:

5. Community Readiness Focused on Plume Model information to Life Safety Receptors

On and Off Site Receptors located in the Protective Action Zone determined by plume modeling and/or the DOT response guidebook.

- ☐ **ALOHA (EPA free service) plume model of each HZ** worst case release (inside and outside release) based upon the facility command team assessment.
- ☐ **On and Off Site Receptor map** with pin locations and contact information for high life risk receptors (AEGL 2 and greater).
- ☐ **Pre-Event receptor information** and contact information regarding the readiness of emergency response to mitigate risk and threats of ammonia. Provide printed materials e.g., ASTI trifold handouts for living around, working around, and public safety response to ammonia events. The training should center on the importance of shelter-in-place, an explanation of plume model readiness, and a discussion about how the local emergency alert system works.

☐ Agree, ☐ Hold, or ☐ Not Interested at this time ☐ Other: _____

Comments for future reference:

6. Facility Command Team Readiness

Command Team Readiness

- ☐ **Command Status Board – Set up for on-going Situation Status Reports**

- ☐ **Facility Incident Commander (ICS & NIMS trained) or Senior Supervisor** in charge of the emergency plan and response leadership. **See APPENDIX 3** for more details about emergency response and command team operations.
 - ☐ **Lead Responder** – A lead ammonia system operator (systems engineer or lead ammonia systems maintenance leader) that will be responsible for ensuring safe operations while evacuating the HZ and setting up emergency system control operations. Delivers CAN reports routinely to the Incident Commander so that the situation status and future incident action plan can be accurately and appropriately developed and engaged.
 - ☐ **Evacuation Group Supervisor** – Implements the emergency evacuation plan with emphasis on moving personnel that are most at risk to safe inside or outside staging areas. Monitors wind direction and plume movement to ensure that those who are in staging areas are safe and have adequate comfort needs. The Evac. Supervisor assigns an Access Control Officer to assist with flagging the emergency services to the correct entrance and gives directions to the public safety responders to the facility command post and the name of the facility IC and/or emergency manager in charge of operations.
 - ☐ **Command assignments** coordinated by the Facility IC or Senior Supervisor knowledgeable about how to implement the facility emergency plan.
 - ☐ **Notification Unit Leader** is responsible for overseeing a daily command team assignment board and will create a daily critical information briefing for the IC and Command Team.
 - ☐ **High risk or threat scenarios** e.g., opening the system for repairs or new equipment installation should be report to all supervisors by ☐ On-line ☐ Posted ☐ Live meeting ☐ Text or Email message ☐ Other: _____
- Posting: **The IC will decide if high risk and/or threat advisory should be reported to local fire responders via** ☐ 9-1-1, ☐ Fire Administration Office _____, ☐ Nearest fire station, or to a designated message receiving site provided by the fire administration.

Comments: Agree, Amend, or Not Applicable

☐ Agree, ☐ Hold, or ☐ Not Interested at this time ☐ Other: _____

Comments for future reference:

7. Facility Command Communications and Alert System

Engaging Command Team Operations between the facility and public safety command team.

Check all that apply:

- ☐ 9-1-1 report **indicating the best fire response approach (upwind) to the facility. An access control officer with vest and red flag will guide the responding fire units to the facility command post and will provide the office with the first responder clipboard (CONOPS item 4).**
- ☐ **Command Team Communications:** ☐ Radio (the best) ☐ Cellphone ☐ Public address system ☐ Megaphone, ☐ Person-to-person ☐ Other _____

- ☐ **Emergency communications, monitoring systems, and method of Alert:** ☐ Bells and Lights
☐ Cellphone Alert ☐ Radio Contact ☐ Public address system ☐ Security Video System or
 Other: _____
- ☐ **Utilize a CAN Report (Conditions, Actions, Needs)** When Calling for Support within the Facility and When Requesting Support from 911 and Others Requested to Respond.
- ☐ **Fire Department recommended Mayday alert** requiring all personnel to back-off to a safe refuge location. See the back of the 30-Minute Plan for the “General Safety Message. The recommendations are supported by: <https://www.fireengineering.com/firefighter-training/firefighter-basics-calling-the-mayday/#gref>

☐ Agree, ☐ Hold, or ☐ Not Interested at this time ☐ Other: _____

Comments for future reference:

8. Facility Command and Operations Response Readiness

Facility Emergency Response Capability:

- ☐ **Emergency Planning Level:** ☐ Emergency Action Plan ☐ Emergency Response Plan
- ☐ **Facility Level of Command and Operations Team Training:** See Appendix 4
- ☐ **Technical support** (engineering, emergency services, ammonia supplier, etc.) available:
- ☐ Other support services: _____
- ☐ **Level of PPE:** The following are ASTI recommendations that will have detailed specifications available by the end of 2023.
- ☐ **Critical Task Policy Guidance Reference** www.iiar.org : Emergency system control, rescue, decontamination team (showers and eyewash stations), medical team (first aid and treatment area) – See Appendix 3.
- ☐ **Command Team:** ☐ Vest ☐ Communications ☐ Escape respirator ☐ Goggles ☐ ASTI All-Hazards Response Guidebook and 30 Minute Plan.
- ☐ **Operations Team Level of PPE:** Same as Command Team plus ammonia detector and critical access keys and valve stem wrench.
- ☐ **Entry into IDLH Level of PPE:** Minimum of a self-contained-breathing apparatus and full skin coverage to the standard expectations of the employer e.g., firefighter turnouts for rapid entry rescue, Level B entry suit for up to 5,000 ppm, and Level A for over 5,000 ppm.
- ☐ **Escape Respirators (for each HZ):** for support for those who are within a hazard zone without PPE. Follow the Critical Task recommendations.

☐ Agree, ☐ Hold, or ☐ Not Interested at this time ☐ Other: _____

Comments for future reference:

9. Public Safety Command and Operations Response Readiness

Local Public Safety Emergency Response Capability:

- ☐ **Emergency Planning Level:** ☐ Hazmat Area Plan ☐ Hazmat Regional Response Plan
- ☐ **Technical support Services:**

- ☐ **Medical Response Services:**

- ☐ **Local Emergency Manager:**

- ☐ **Level of PPE:**
 - ☐ **Command Team:** The level of PPE provided by the field command and entry teams is established by the AHJ overseeing the response.
 - ☐ **Operations Team Level of PPE:** Consider the same as the facility plus departmental policy requirements.
 - ☐ **Entry into IDLH Level of PPE:** Consider the same as the facility plus departmental policy requirements.
- ☐ **Critical Task Policies** e.g., Back-up for Emergency system control, rescue, decontamination (showers and eyewash stations), medical team (first aid and treatment area) – **See Appendix 3.**
- ☐ Coordination of Regional Public Safety **Support (Emergency Manager as a liaison to the field I.C. in charge of the incident:**

- ☐ Hazmat Team:

- ☐ Specialty Support e.g., **SCBA air supply, special rescue services, Public Information Officer(s), and other support services available:** _____
- ☐ **Military Community Support Team (CST):** _____
- ☐ **Utilization of ChemResponder Network** for situation status, plume modeling, and links to uploaded information from the facility, emergency manager, and IC requested responders from regional, state, and federally dispatched responders.

☐ Agree, ☐ Hold, or ☐ Not Interested at this time ☐ Other: _____

Comments for future reference:

10. AHJ Recommended Facility Emergency Plan Responsibilities

The AHJ planning team should review the following list of facility and public safety readiness measures and decide the value and continued review of the content for emergency plan development and training planning. Each topic has a status assignment in the left column and a comments line for AHJ clarification and content discussion information to share with the CONOPS users.

Appendix 1 provides informational support for completing the Section 10 recommendations.

Note to Reader: The following 8 pages provide the CONOPS AHJ team to review the emergency planning expectations that are in place for public safety and industrial response teams. The sections are designed to ensure that the AHJ and industrial and public safety emergency responders are in alignment with what is expected for local emergency CONOPS expectations.

PURPOSE AND SCOPE OF THE FACILITY e.g., EAP OR ERP AND CONOPS.

The purpose of this plan is to provide information to facility and public safety command team and others requesting emergency planning information regarding response to an accidental release of anhydrous ammonia.

The goal of the emergency plan is to safeguard the employees, visitors, and the public in the event of an emergency.

This plan applies to all employees (including part-time employees and contractors working onsite) who are involved in the maintenance and/or operations of, or emergency response or assigned to any aspect of this emergency plan.

The training plan requires an annual 8 hour employer adopted refresher training for the command team, 4 hour training for all supervisors and for those working for the command team during an emergency event.

All employees will receive annual emergency plan update training by their supervisors (based upon each annual training plan content).

☐ Agree, ☐ Hold, or ☐ Not Interested at this time

Comments:

FACILITY EMERGENCY RESPONSE AND SAFETY RESPONSIBILITIES

Provide an Organization Chart and approved Employer of assigned roles:

- ☐ **Emergency Plan Manager** and **safety manager**.
- ☐ **Command team** members and operations level responders.
- ☐ **Technicians**, utilities, engineering support, and administrative support team.

Other _____.

- ☐ **Contractors for specialty needs** e.g., emergency response, system control, alarm system operations, Other _____.

- ☐ **Specialty team leaders** for logistics, emergency planning, operational support, medical, decontamination, system trouble-shooting support for alarm and monitoring systems.
- Other _____.

☐ Agree, ☐ Hold, or ☐ Not Interested at this time

Comments:

GENERAL INFORMATION

Description of the hazards, risks, and threats that would trigger the need for the emergency plan.

Chemical:

Fire:

Medical:

Explosion:

Utility:

High Risk Operations:

AMMONIA ALARM SYSTEM

Location of monitoring stations and alarm system sensors: **Describe the levels of ammonia sensors and location of the control panel for monitoring the sensor readings. Also explain any special system alerts for the various levels of ammonia reading.**

Identify the auto-control system **linked to the ammonia alarm system.**

Explain how on-site emergency **response team members should react when receiving an ammonia alarm alert.**

☐ Agree, ☐ Hold, or ☐ Not Interested at this time

Comments:

EMERGENCY RESPONSE OPERATIONS

Ensure that the methods for the Command and Operations team performance for the following stages of response is clearly laid out in the emergency plan and trained upon annually.

- ☐ **Discovery (LANCE)** - Life safety, Alert first responders, Notify emergency services, Command (senior supervisor or incident commander), Escape and evacuation from the 'hot zone' and Isolation Zone (100 feet (30 Meters) to 1,000 ft. (30 meters)
- ☐ **Initial Response** – Develop an emergency control plan for each hazard zone that reflects the SIMPLE response: Sources of ignition; Isolate the liquid flow; Manage pressure and heat; Pressurized ventilation (fans); Life safety on the downwind; Emergency plan to confine and control the loss of hazard containment.

- ☐ **Sustained Response** – Emergency response technicians assess pre-entry hazards, and develop a plan of action and a safety plan and enter with proper PPE, back-up, and safety management to achieve containment and control tasks defined in the incident action plan.

- ☐ **Termination Proclamation and Post-emergency Response Operations Recovery Plan**

The following information summarizes the **Post-Emergency Response Operations** expected hazmat operations. <https://www.chemicalspill.org/ChemicalsWorkPlace/response.html>

- ☐ **Upon completion of the emergency response**, if it is determined that it is necessary to remove hazardous substances, health hazards, and materials contaminated with them (such as contaminated soil or other elements of the natural environment) from the site of the incident, the employer conducting the cleanup shall comply with one of the following:
- ☐ **Meet all of the requirements utilized for emergency response**; or where the cleanup is done on plant property using plant or workplace employees, such employees shall have completed the training requirements of the following: **29 CFR 1910.38(a); 1910-134; 1910.1200**, and other appropriate safety and health training made necessary by the tasks that they are expected to be performed such as personal protective equipment and decontamination procedures. All equipment to be used in the performance of the cleanup work shall be in serviceable condition and shall have been inspected prior to use.

LINK http://www.osha-slc.gov/OshStd_toc/OSHA_Std_toc_1910.html

☐ Agree, ☐ Hold, or ☐ Not Interested at this time

Comments:

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Provide PPE for emergency responders, operators and those who would visit high risk hazard zones so that respiratory, eyesight, skin, head, foot protection.

The standards should be accepted by all personnel and discipline enforced for ALL personnel to adhere to the PPE standards.

There are four levels of PPE – Level A – fully encapsulated; **Level B** – Respiratory and splash protection; **Level C** – working in high hazard locations, **Level D** – Daily safety readiness.

☐ Agree, ☐ Hold, or ☐ Not Interested at this time

Comments:

EMERGENCY SYSTEM CONTROL PLAN

Each hazard zone within the facility should have an emergency system control plan that defines the hazards, risks, and threats associated with entering and controlling a potential loss of hazard containment.

☐ Agree, ☐ Hold, or ☐ Not Interested at this time

Comments:

CRITICAL TASKS READINESS

Identify the protocols for engaging life-critical tasks – Methods of addressing immediate life threats evacuation, rescue, medical care, and emergency system control plans. The plans should consider those from public safety, local emergency medical care, and contract technicians that would support the attainment of critical tasks. It's important to have a plan that meets the critical tasks targets within the first 15 to 30 minutes.

☐ Agree, ☐ Hold, or ☐ Not Interested at this time

Comments:

REGULAR INSPECTIONS AND MAINTENANCE ACTIVITIES

Standards Operations Procedures (SOP) – Procedures and guidance documents that show how to perform critical operations such as operations involving high risk, emergency system control procedures, and following safety and pre-event readiness requirements (PPE and SOP review/compliance).

☐ Agree, ☐ Hold, or ☐ Not Interested at this time

Comments:

NOTIFICATION AND ENGAGE RESOURCES FOR CONTAINMENT, CONTROL, AND COMMUNITY RECOVERY

Notification of Emergency Responders and other critical participants from facility, off-duty, technical support, contractors, and corporate leaders.

Recommend that notifications be arranged for FEMA five levels of emergency Complexity:
Level 5 = small and controllable with ~ an hour, **Level 4** = Not controlled but confined to a low threat Isolation Zone and controllable within several hours, **Level 3** = **Level 2** = an event that resists mitigation and may take several days to control (with significant impact to the community) Requiring regional and state support **Level 1** = Highest impact catastrophic event that persists for numerous operational periods, requiring state and federal resources to control and community recovery.

☐ Agree, ☐ Hold, or ☐ Not Interested at this time

Comments:

EMPLOYEE TRAINING AND EXERCISES

A training plan for command, operations, and employees – The training plan should be set in levels, awareness for everyone, supervisor training, command team training, and technician level operations trained personnel.

☐ Agree, ☐ Hold, or ☐ Not Interested at this time

Comments:
<p>NATURE AND HAZARDS OF NH₃ for MARITIME AND ON-SHORE TERMINALS</p> <p>Understand hazards, Manage Risks, and Prepare for Threats – This should be focused on all hazard zones and all high-risk protocols and equipment.</p>
<p><input type="checkbox"/> Agree, <input type="checkbox"/> Hold, or <input type="checkbox"/> Not Interested at this time</p> <p>Comments:</p>
<p>RISKS: Define the methods of mitigating risks such as detection, pre-operational readiness, utilizing means to recognize escalating factors before they occur to reduce the chances of the risks becoming threats of injury, fire, explosion, over-pressure and other potentially catastrophic damages.</p>
<p><input type="checkbox"/> Agree, <input type="checkbox"/> Hold, or <input type="checkbox"/> Not Interested at this time</p> <p>Comments:</p>
<p>FIRST AID MEASURES, DECONTAMINATION</p> <p>Training and equipment to sustain medical and decontamination challenges until public safety and emergency medical technicians can assume command and control of the victims.</p> <p>Triage and treatment for all types of ammonia related injuries. Special focus on respiratory, eyesight, and skin burns.</p>
<p><input type="checkbox"/> Agree, <input type="checkbox"/> Hold, or <input type="checkbox"/> Not Interested at this time</p> <p>Comments:</p>
<p>ACRONYMS</p> <p>Also found in the Safety Data Sheet for any toxic gas like ammonia, as well as other hazardous materials.</p> <p>EAP and ERP Emergency Action Plan that covers emergency operations outside of IDLH conditions and Emergency Response Plan that has response technicians that can enter IDLH conditions.</p> <p>Four Stages of Response is based upon the One Plan framework developed and recommended for the creation of emergency plans for chemical users and public safety responders. The four stages (Discovery, Initial Response, Sustained Response, and Termination/Recover) are summarized in the one page 30-Minute Plan produced by ASTI www.ammonia-safety.com</p> <p>Hazard Zone (HZ) a HZ is a location within the plant that has high risk and threat that is co-located and interconnected within the zone. A HZ will have special emergency system controls and mitigations that are engaged during the four stages of emergency response.</p>

IDLH (Immediately Dangerous to Life and Health): concentrations which upon exposure are likely to result in death or immediate or delayed permanent adverse health effects.

TLV-TWA (Threshold Limit Value-Time Weighted Average): the concentration for a normal 8 hour workday and a 40 hour work week, to which nearly all workers may be repeatedly exposed, day after day, without adverse effect.

STEL (Short Term Exposure Limit): the maximum concentration to which someone can safely be exposed for a period of up to 15 minutes -with a maximum of four periods per day.

UEL (Upper Explosion Limit): the highest concentration of a vapor or gas which will explode, ignite or burn in the presence of an ignition source. Mixtures above this limit are too rich to burn.

LEL (Lower Explosion Limit): the lowest concentration of a vapor or gas which will explode, ignite or burn in the presence of an ignition source. Mixtures below this limit are too rich to burn.

☐ Agree, ☐ Hold, or ☐ Not Interested at this time

Comments:

MAINTENANCE OF EMERGENCY PLAN

Assign an Emergency Manager and emergency response champions that lead the command, operations, and administrative tasks associated with sustaining an accurate and effective emergency plan that is properly utilized and abided by all responders and employees.

☐ Agree, ☐ Hold, or ☐ Not Interested at this time

Comments:

CLIPBOARD AND PLAYBOOK CONOPS RESPONSE READINESS

The AHJ discussion between the Tripod team will consider the following options for emergency response readiness.

Floor Plan Layout diagrams – Master Maps of Facility Hazard Zone locations and high

Evacuation Map showing evacuation rally points, staging areas, and shelter-in-place locations

Hazard Zone and component e.g., compressors, evaporators, and high-risk system isolation valves – Pictures and P&ID documents.

Weekly inspection of Ammonia Sensors and Ammonia alarm system inspection checklist

Maintenance of ammonia sensors and alarm system

Anhydrous Ammonia Safety Data Sheet and ammonia emergency response Standards of Operation information.

Clipboard Readiness with forms that support Public Safety response e.g., CAN Report, ICS 215a Hazard Assessment for each Hazard Zone, ICS 208 Safety Plan, and an Emergency System Control Plan for each Hazard Zone.

Locally Adopted Ammonia Response CONOPS
Local (Regional) and State Plans for Medical Response Surge Events and for crisis management.
Other critical emergency plans requested by the AHJ and/or the Tripod response team.
<input type="checkbox"/> Agree, <input type="checkbox"/> Hold, or <input type="checkbox"/> Not Interested at this time Comments:

APPENDIX 1: FEDERAL, STATE, AND LOCAL RESPONSE

Introduction

Developing and Maintaining Emergency Operations Plans

https://www.fema.gov/sites/default/files/2020-05/CPG_101_V2_30NOV2010_FINAL_508.pdf

Planners achieve unity of purpose through coordination and integration of plans across all levels of government, nongovernmental organizations, the private sector, and individuals and families. This supports the fundamental

principle that, in many situations, emergency management and homeland security operations start at the local level and expand to include Federal, state, territorial, tribal, regional, and private sector assets as the affected jurisdiction requires additional resources and capabilities. Plans must, therefore, integrate vertically to ensure a common operational focus. Similarly, horizontal integration ensures that individual department and agency EOPs fit into the jurisdiction's plans, and that each department or agency understands, accepts, and is prepared to execute identified mission assignments. Incorporating vertical and horizontal integration into a shared planning community ensures that the sequence and scope of an operation are synchronized.

"Let our advance worrying become advanced thinking and planning."

Winston Churchill

The purpose of this document is to provide an Ammonia Response One Plan CONOPS template that supports the local Authority Having Jurisdiction (AHJ) to exercise, enhance, and continuously improve their Emergency Operations Procedures (EOP) and a Concept of Operations (CONOPS) for local response to ammonia emergencies.

The EOP and CONOPS must integrate with state and federal plans that add capability and resources to address ammonia incident coordinates and collaborates appropriately with the local, state, and federal plans that are built to provide capabilities to respond to cascading failures among businesses, supply chains, and infrastructure sectors. Collaborate to stabilize community lifelines and restore services by using EOP (Emergency Operations Procedures) and a CONOPS (Concept of Operations) that aligns with the federal, state, and local response framework.

OSHA Emergency Response To Ammonia (All Hazmat Incidents)

LINK: http://www.osha-slc.gov/OshStd_toc/OSHA_Std_toc_1910_SUBPART_Z.html

OSHA 1910.120(a)(v) - Emergency response operations for releases of, or substantial threats of releases of, hazardous substances without regard to the location of the hazard.

1. Emergency Response Plan requirements: An emergency response plan shall be developed and implemented to handle anticipated emergencies prior to the commencement of emergency response operations. The plan shall be in writing and available for inspection and copying by employees, their representatives, and OSHA personnel. Employers who will evacuate their employees from the workplace when an emergency occurs, and who do not permit any of their employees to assist in handling the emergency, are exempt from the requirements of this paragraph if they provide an emergency action plan in accordance with CFR 1910.38(a).
2. Procedures for handling emergency response: The senior emergency response official responding to an emergency shall become the individual in charge of a site-specific Incident Command System (ICS). All emergency responders and their communications shall be coordinated and controlled by the individual in charge of the ICS assisted by the senior official present for each employer. The Senior officials at an emergency response is the most senior official on the site who has the responsibility for controlling the operations at the site. Initially it is the senior officer on the first-due

piece of responding emergency apparatus to arrive on the incident scene. As more senior officers arrive (i.e., battalion chief, fire chief, state law enforcement official, site coordinator, etc.) the position is passed up the line of authority which has been previously established.

3. The individual in charge of the ICS shall identify, to the extent possible, all hazardous substances or conditions present and shall address as appropriate site analysis, use of engineering controls, maximum exposure limits, hazardous substance handling procedures, and use of any new technologies.
4. Based on hazardous substances and /or conditions present, the individual in charge of the ICS shall implement appropriate emergency operations and assure that the personal protective equipment worn is appropriate for the hazards to be encountered. However, personal protective equipment shall meet, at a minimum, the criteria contained in 29 CFR 1910.156(e) when worn while performing firefighting operations beyond the incipient stage for any incident or site.
5. Employees engaged in emergency response and exposed to hazardous substances presenting an inhalation hazard or potential inhalation hazard shall wear positive pressure self-contained breathing apparatus while engaged in emergency response, until such time that the individual in charge of the ICS determines through the use of air monitoring that a decreased level of respiratory protection will not result in hazardous exposures to employees.
6. The individual in charge of the ICS shall limit the number of emergency response personnel at the emergency site, in those areas of potential or actual exposure to incident or site hazards, to those who are actively performing emergency operations.
7. Back-up personnel shall stand by with equipment e.g., hose line, fan(s), containment tarps, rescue skids, decontamination supplies and other resource readiness to provide assistance or rescue. Advance first aid support personnel, as a minimum, shall also stand by with medical equipment and transportation capability.
8. The individual in charge of the ICS shall designate a safety official, who is knowledgeable in the operations being implemented at the emergency response site, with specific responsibility to identify and evaluate hazards and to provide direction with respect to the safety of operations for the emergency at hand.
9. When activities are judged by the safety official to be an IDLH condition and/or involve an imminent danger condition, the safety official shall have the authority to alter, suspend, or terminate those activities. The safety official shall immediately inform the individual in charge of the ICS of any actions needed to be taken to correct these hazards at an emergency scene.
10. After emergency operations have terminated, the individual in charge of the ICS shall implement appropriate decontamination procedures.
11. When deemed necessary for meeting the tasks at hand, approved self-contained compressed air breathing apparatus may be used with approved cylinders from other approved self-contained compressed air breathing apparatus provided that such cylinders are of the same capacity and pressure rating. All compressed air cylinders used with self-contained breathing apparatus shall meet U.S. Department of Transportation and National Institute for Occupational Safety and Health criteria.

Local CONOPS adopted by the Authority Having Jurisdiction (AHJ)

Most chemical emergency events start locally within an industrial facility and/or with a transportation service to and from an industrial facility.

<https://www.fema.gov/sites/default/files/documents/nims-incident-complexity-guide.pdf> Authority Having Jurisdiction (AHJ): An entity that has the authority and responsibility for developing, implementing, maintaining, and overseeing the qualification process within its organization or jurisdiction. The AHJ may be a state or federal agency, training commission, NGO, private sector company or a tribal or local agency such as a police, fire or public works department. In some cases, the AHJ may support multiple disciplines that collaborate as part of a team, such as an IMT.

The local Concept of Operations (CONOPS) for emergency response to an ammonia emergency is largely centered on the Authority Having Jurisdiction (AHJ).

The Emergency Operational Procedures are engaged by industrial and public safety command team, responders, system operators, and technical support personnel. The procedures comply on prescriptive requirements from OSHA worker safety standards and EPA emergency planning requirements to fulfill the ability to properly handle a loss of chemical hazard containment, fire, and other risks and threats that may impact employees, the community, and the responders. FEMA, NIOSH, CDC, NFPA, industrial standards and best practices advisories help to guide the employer and the AHJ to adopt develop EOPs and CONOPS.

Develop community plans as guided by the Local Emergency Planning Committee and the response authorities identified in the community chemical emergency area response plan.

The National Response Framework includes Emergency Support Functions (ESF) that describe federal coordinating structures that group resources and capabilities into functional areas most frequently needed in a national response.

ESF 10 Oil and Hazardous Materials Response

- Describe the actions to prevent, minimize, or mitigate an oil or hazardous materials release.
- Describe the methods to detect and assess the extent of contamination (including sampling and analysis and environmental monitoring).
- Describe the methods to stabilize a release and prevent the spread of contamination.
- Describe the options for environmental cleanup and waste disposition; implementation of environmental cleanup; and storage, treatment, and disposal of oil and hazardous materials.

Appendix 1 provides a preface and hyperlink to the Version 2.0 Developing and Maintaining Emergency Operations Plans

National Prevention Framework National Prevention Framework

https://www.fema.gov/sites/default/files/2020-04/National_Prevention_Framework2nd-june2016.pdf

The responsibility for prevention is shared, from the individual and the community to local jurisdictions; state, tribal, and territorial governments; and the Federal Government. Initiatives based on Prevention mission activities and core capabilities help guide communities to create conditions for a safer, more secure, and more resilient Nation by enhancing prevention through operational coordination and information sharing.

The National Prevention Framework describes what the whole community—from community members to senior leaders in government—should do upon the discovery of an imminent threat to the homeland. An imminent threat is intelligence or operational information that warns of a credible, specific, and impending terrorist threat or ongoing attack against the United States. This Framework helps achieve the National Preparedness Goal of a secure and resilient Nation that is optimally prepared to prevent an imminent terrorist attack within the United States.

The Facility Command Team is set into motion as follows:

The Senior Supervisor must take charge of an emergency event and coordinate the Discovery (L.A.N.C.E.) checklist to address the immediate life safety, alert, notification, command, and evacuation challenges.

Delegation of Duties. The Senior Supervisor will alert the emergency response on-duty command team while also addressing the immediate life safety and emergency mitigation efforts that he/she is trained and equipped to perform.

Facility Incident Commander (IC) to assume command and engage the Discovery command team. The IC has delegation powers to assign command team positions as needed and as available (to include off-site technical support). The Discovery stage command team functions that need to be achieved are described below. The IC will be responsible for the overall coordination and safety of the command team until resources arrive that can be delegated for the critical requirements associated with the incident.

Notification Unit Leader (Notification) alerts the remaining command team and begins emergency notifications (based upon the IC announcement of the “Level of Response”), incident documentation, and the Notification Unit team.

Lead Responder communicates to the IC that he/she is responding to the Hazard Zone (HZ) emergency to perform reconnaissance, life safety measures for those in the hot zone and Isolation Zone to include immediate availability to emergency system control to reduce the impact of the emergency event for those entrapped.

Evacuation Group Supervisor “Evacuation” engages the Access Control Officer, evacuation Sweepers to engage evacuation and/or shelter-in-place orders and addresses the high risk evacuation challenges (movement of people from the Rally Point to safer refuge locations).

Overall Strategy and Tactics during Discovery stage is to “Go Big Early” and “Plan to the plume and train to the Plan”. The IC and command team operationally and safely mitigate and control the emergency event when it is small while also predicting escalating factors that require an early call for more resources...don’t wait until you need support to call for it...plan forward.

Facility Access Control Officer appointed by the Evacuation Group Supervisor will use a red-flag alert (crossed arms above the head) to direct incoming responders to access point and then to the command post. Optional – provide a clipboard with a Master Map and a blank CAN Report form to be used for the first size up discussion with the facility IC.

Logistical needs include set up of a command post work area (with power and computer service), eye level wind indicators (for all command team and evacuation staging areas and near the Hazard Zone hot zone), perimeter tape, pylons, and warning signs for the HZ control areas, medical/decon kit, fire extinguishers, extra PPE support, exhaust fan, and response guide references. The logistical needs can be supported with the dispatched first due fire responders.

Wind websites www.windy.com <https://www.wrh.noaa.gov/map/?obs=true&wfo=pdf> or <https://www.weatherbug.com/>

State and Federal Response Platform

5. Incident Effect Indicators Summary Table

This table supports the Incident Effect Indicators listed in the above Incident Complexity Level Tables across all hazards and provides a basis for training to determine incident complexity. Users can identify indicators with ease of use in addition to the detail provided above.

Incident Complexity Level: Incident Effect Indicators Summary										
Type	Resistance to stabilization or mitigation	How long does it take for resources to meet incident objectives?	Effects on population immediately surrounding the incident	Length of incident effects	Evacuations necessary during mitigation	Adverse impact on CIKR	CIKR impact / mitigation measures	Coordination required with elected/ governing officials and stakeholder groups	Do conditions or actions that caused original incident persist?	Probability of cascading event or exacerbation of current incident
5	None	1-2 hours	Minimal	Minimal	Few or none	None	None	Minimal or none	No	None
4	Low	Several to 24 hours	Limited	Up to 24 hours	Few or none	Minimal	Uncomplicated within one operational period	Minimal or none	No	Low to none
3	Moderate	At least 24 hours	Moderate	Several days to over one week	Possible; may require shelter	Threatens, damages, or destroys property	Adverse; multiple operational periods	Some	Possibly	Medium
2	High	Several days	Significant	Several days to two weeks	Possible; may require shelter/ housing for several days to months	Threatens, damages, or destroys property	Destructive; requires coordination over multiple operational periods	Moderate, including political organizations	Possibly	High
1	High	Numerous operational periods	Significant	Two weeks to over a month	May require shelter/ housing for several days to months	Significantly threatens, damages, or destroys property	Highly destructive; requires long-term planning and extensive coordination over multiple operational periods	High, including political organizations	Yes	High

National Response Framework (NRF) presents the guiding principles that enable all response partners to prepare for and provide a unified national response to disasters and emergencies – from the smallest incident to the largest catastrophe.

https://www.fema.gov/pdf/emergency/nrf/about_nrf.pdf

The National Response Framework (NRF) is a guide to how the nation responds to all types of disasters and emergencies. It is built on scalable, flexible, and adaptable concepts identified in the National Incident Management System to align key roles and responsibilities.

<https://www.fema.gov/sites/default/files/documents/nims-incident-complexity-guide.pdf>

The Federal Method of Classifying Emergency Events

FEMA Incident Complexity Levels:

Complexity Level 5 - Minimal risk and threat: generally handled by the first-in responders and the industrial team within an hour to terminate.

Complexity Level 4 - Low risk and threat: contained, controlled, and terminated within 24 hours.

Complexity Level 3 Moderate risk and threat: involving regional response for 24 hours or more to terminate and demobilize.

Complexity Level 2: High risk likely needing a locally proclaimed disaster and state and federal emergency management support; may require several days to terminate and demobilize.

Complexity Level 1 – Highest risk category requiring numerous operational periods and significant high level political and operational resources.

During and emergency event the incident command team has the responsibility for ensuring incident safety, providing information services to internal and external stakeholders, and establishing and maintaining liaison and/or Unified Command with other agencies participating in the incident

The local Authority Having Jurisdiction leadership team works aggressively with local responders to engage their Emergency Action Plan (EAP). The EAP command team MUST integrate and support the Tech-Responders who work under an Emergency Response Plan (ERP).

Local First Responders Engaging Emergency Action Plan Critical Tasks.

The “Go big early to stop emergencies when they are small” requires a strong response during the Discovery and Initial Response stages of response (highlighted in the ASTI produced 30-Minute Plan).

Discovery Stage – Engage the LANCE checklist on the 30-Minute Plan

- ☐ Life safety depends on effective strategy and resources to move people out of the “Control Zones” (Hot and Isolation Zones) to safe refuge at rally points and staging areas that offer reliable protection from dangerous chemical contamination and smoke. Shelter in place within Protective Action Zone and upwind locations is a primary alternative with a well-led evacuation plan engaged by the Incident Commander and Evacuation Group Supervisor.
- ☐ The first IMAAC plume model ordered during the Discovery stage should be available to the command team and local Emergency Manager (EM) within 30 minutes.
- ☐ Utilize the ChemResponder platform and the local Emergency Manager to facilitate the connection of the ground truth information to those assigned to perform on-going plume model updates.
- ☐ IC will arrange for an update of the IMAAC plume model with ground truth information; IC may assign Assistant Safety Officer and/or the local Emergency Manager to engage ChemResponder and/or the IMAAC.
- ☐ Request “Steady State” and “plume regression timing” (see definition in Appendix 1) from IMAAC.
- ☐ Engage the plume modeling support available from the community, state, EPA, Civil Support Team, etc.
- ☐ Re-evaluate the status of downwind and downstream receptors and deliver a CAN report to the public safety IC.

Ten Points of Decontamination and Rescue



1. Use of a shower and/or eye wash for a victim of skin or eye exposure from ammonia liquid, aerosol, or dense gas is a critical life safety task.

- ☐ Ensure that frozen clothing is thawed with water before removing.

2. Light vapor or short exposure (less than a minute) to dense gas for those who are wearing firefighter turnouts or total skin coverage e.g., helmet and/or hood, overalls, gloves, and boots generally do not produce the symptoms e.g., red skin necessary for a shower. Human body heat will generally repel short term exposure to ammonia vapor. An exhaust fan is an effective way to remove clothing surface exposure to ammonia

vapor.

3. First signs of serious exposure include redness, blisters, and skin or eye pain.

- ☐ Aqueous ammonia direct skin exposure or from wet clothes and shoes can be bad or worse for skin damage, especially if the pH increases to above 8 or 9. A complete decon shower for 15 to 30 minutes should accompany skin damage that impacts (spreads) throughout the body (either by exposure or by water run-off from decon used to address a localized decon wash down).

- Ammonia caused eye injury can initially be decontaminated with a commercially available bottle of eyewash solution designed to treat alkaline burns. The use of water eye wash is recommended as a follow-up to the initial short term eye solution bottle treatment.
- 4. Escape: Evidence shows that victims that escape an aerosol dense gas cloud of anhydrous ammonia within 15 to 20 seconds have a good chance of surviving without serious long-term injury if they go directly to a decon washdown. Body heat will deflect most of the impact of the release unless the victim is wet (with water, urine, or ammonia).
- 5. A victim wearing proper PPE: a full-face air purifying respirator, total skin coverage (overalls, helmet, and gloves), or escape hood (preferably a 14G) will generally escape serious ammonia burn injury because body heat will deflect most of the impact from cold aerosol/dense gas.
- 6. A victim wearing goggles, full skin protection, helmet, and hood will have the short term (less than a minute) protection to see as they escape dangerous levels of ammonia vapor, although the lack of a respirator may cause respiratory discomfort and potential long-term injury.
- 7. The initial hazard assessment for the risk versus benefit should not exceed a review that is within 600 ppm. If the victim shows signs of life e.g., body movement and/or the victim is within AEGL life expectancy the rescue team can proceed to perform the rescue.
- 8. Rescue to Decon: The command team and first responders equipped with Self-Contained Breathing Apparatus and full firefighter turnouts, or Level B chemical suits may follow employer approved SOP to conduct a rapid entry rescue of a live victim that is within their eyesight. The rescue protocol should include the use of a ventilation fan (portable and/or fixed ventilation system). The purposeful use of a hose line to gain safe access to a victim and full decontamination during and after rescue is also an option.
- The rescue team should be supported with a trained decon team that has respirators and skin protection necessary to perform decon on the victim(s). The decon process can be performed with due regard for the victim's dignity by using appropriate protocol that controls on-lookers from making the victim nervous and hard to deal with.
- 9. Effective Decontamination Methods and System Design. Continue the shower with the underwear being removed when the victim has evidence of ammonia contamination injury to the groin; all clothing (including under wear) should be removed when finishing the decon and then provided with clean/dry clothing or a blanket.
- The OSHA criteria for shower and eyewash systems are designed for proper water volume and pressure to deluge with low-pressure high-volume water spray. The showers can be provided with in-line heaters that ensure tepid water and adequate protection from potential cold thermal conditions.
<https://www.osha.gov/laws-regs/standardinterpretations/2009-06-01>
- A commercially available handheld decon nozzle that will provide a low pressure/high volume water spray that works well for addressing the decon need on areas of concern such as the groin...constant flush will significantly reduce any blistering.
- A decon standing pad that allows run-off to drain away from the shower location is a good addition to the decon shower system.
- 10. Those that are exposed to aqueous ammonia contamination that exceeds 8 to 9 pH skin are much more likely to suffer skin burns. A full skin washdown is vital.

Situation Status Report to be posted on ChemResponder and the One Plan Playbooks.

Situation status will be monitored by public safety and facility command that are invited to the ChemResponder platform by the Public Safety IC. The information provided on the ChemResponder platform is not to be shared with the public, only to be viewed and supported by the IC invited command team.

- Utilize the pre-loaded Hazard Zone (ICS) 215 form and the Emergency System Control Plan to address (mitigate) the opportunity to slow or stop the loss of chemical or fire spread. The hazard assessment should include a close review of operating temperatures, pressures, potential hydraulic shock or hydrostatic pressure, aggressive use of hot work permits lock out/tag out procedures and high sensitivity to new odors and sensations for heat, smoke, or odorous gases. Ensure that there is no deviation to the normal operating requirements.
- Ensure that responder Personal Protective Equipment (PPE) action plan is compliant with industrial best practices, Standard Operating Procedures and OSHA prescriptive requirements e.g., OSHA 1910.132 (or equivalent State OSHA requirements) responders dealing with a chemical or fire event, including the purposeful use of water on ammonia, and the ability to address any downstream impacts of using water.

Initial Response -Engage the SIMPLE Checklist in the 30-Minute Plan

The Initial Response stage transitions to Sustained Response when hazmat technicians arrive to receive a CAN report and the transfer of command should include the continued use of the ASTI 30-Minute Plan (front and back page information), the ICS 215A form, and the emergency system control plan.

- The public safety IC will coordinate with the local EM to liaison with field command and the Emergency Operations Center so that community receptor concerns, medical treatment, traffic management, public information messages, and coordination support with resources from regional, state, and federal resources ordered by the IC. The joint tracking the ammonia plume and downwind and/or downstream impacts will be documented into situation status reports.
- The IC will form a Unified Command (UC) with the multi-Jurisdictional responders from local, regional, state, and federal agencies as the emergency transitions to Sustained Response. The facility IC and command team will integrate as a liaison, technical specialist, and/or facility representative advising the UC.
- Logistical and Financial demands will increase during the Initial and Sustained Response stages as Operations related needs such as PPE, breathing air supply, additional medical resources, rehab area support with rest room access, drinking water and other support needed if the incident is anticipated to be more than a few hours in length. Containment and control may involve high cost for responders, PPE, mitigation and response supplies, and specialist support.
- Public Information and communications with the media must be accurate and delivered with joint information coordination between public safety and the facility command team. The ChemResponder program offers an excellent platform for managing the creation and delivery of public information.
- The public safety IC will expand the ICS organizational plan (see back of 30-Minute Plan) that should integrate the facility command team. The command team may include Section Chief assignments for Operations, Planning, logistics, and Finance. See the back of the 30-Minute Plan for a sample ICS organizational chart.

Controlling the release of ammonia and any loss of hazard containment.

Every emergency event starts with an Emergency Action Plan (EAP). The Discovery and Initial Response stages relate to the response expectations of first responders during the first 30 to 60 minutes or any time after the technician level ERP team assumes command.

The local Authority Having Jurisdiction (AHJ) CONOPS will consider SOP that involves the first responders to address critical tasks that relate to the immediate life safety priority concerns e.g., emergency system control while working outside of the IDLH “hot zone” and/or rapid entry rescue.

The following is a list of SOP topics that should be considered in the CONOPS.

Formalize the roles of the Evacuation Group Supervisor and his/her team to develop Hazard Zone (HZ) escape plans to move people out of the high threat zones (Hot, Isolation, and Protective Action areas). The movement plan should first be to an upwind rally point, SIP location, and/or evacuation staging area.

An Evacuation Sweeper should be appropriately protected with PPE so that he/she can clear the evacuation areas, making sure that no one is left in the area being evacuated. The Sweeper should work with the Evacuation Group Supervisor to ensure that all personnel are accounted for and are safely located in a refuge area, evacuation staging area, or shelter-in-place location.

Trained and equipped operators should be expected to accomplish the four points associated with handling a loss of hazard containment.

1. OSHA and EPA regulations allow the employer to establish an SOP that establishes the training and PPE for an Operator to accomplish incidental control and/or emergency system control while working safely (ammonia monitored) outside of the IDLH Hot Zone. The SOP should follow the recommendations found in the IIAR Critical Task guidance and ensure that the Operator has full skin protection, a 14 G Air Purifying Respirator, ammonia detector, and communications to the Incident Commander and those who are operationally engaged in the emergency system control operations.
2. Any loss of containment of ammonia must be reported to the facility incident command team (or supervisor in charge) so that the command team can consider engaging an emergency response event. The local area CONOPS may require notification for local and/or state authorities.
3. If an emergency event is declared the facility Incident Commander (or senior supervisor) would take charge and engage the facility emergency plan that includes making appropriate notification, evacuation, emergency system control, and immediate decon/medical care for victims. Additionally, the emergency plan requirements would require the facility to deliver a CAN report, hazard assessment, and safety plan that is needed to an integration of command with the incoming public safety responders. The Lead Operator will work with the command team to develop a plan to accomplish critical tasks.
4. Public safety responders arrive, they will expect that the facility command team will comply with the CONOPS as described in the three points previously described. The fire first responders are usually “Operationally Trained” hazmat responders. The public safety incident commander will take charge of the event and will expect operator support to advise how to safely mitigate the release, perform rescue, and deal with the on-site and off-site consequences of the release.

Sustained Response – Engage the PLANS Checklist in the 30 Minute Plan

The transfer of command between first responder hazmat operational trained personnel and hazmat technician responders will allow for trained and PPE equipped entry team to enter the IDLH-Hot Zone to contain and control the emergency.

The Initial Response stage transitions to Sustained Response when hazmat technicians arrive to receive a CAN report and the transfer of command should include the continued use of the Master Maps, ASTI 30-Minute Plan (front and back page information), the ICS 215A form, and the emergency system control plan.

Safety is paramount before entering the IDLH-Hot Zone. A Safety Officer (SO) and Assistant Safety Officer (ASO) will be considered by the IC. The pre-loaded ICS 208 form and the back of the 30 Minute plan is offered by the facility team to help address safety and Incident Action Plan (IAP) objectives and tasks.

The containment and control plan must be supported by diagrams, pictures, and master maps that will indicate how to approach the release, how to locate the appropriate control valves and system control measures. The ASTI One Plan Red Playbook is extremely helpful in setting up the containment and control plan.

Transition of Command between the facility IC and the public safety IC. The options will include:

- ☐ Unified Command applies to those command level responders that have jurisdictional responsibilities such as law, neighboring fire, Coast Guard, Air District, Fish & Game, etc.

STATE ESFs

ESF #1	Transportation
ESF #2	Communications
ESF #3	Public Works + Engineering
ESF #4	Firefighting
ESF #5	Emergency Management
ESF #6	Mass Care + Housing + Human Services
ESF #7	Resource Support
ESF #8	Public Health + Medical Services
ESF #9	Search + Rescue
ESF #10	Oil + Hazardous Materials Response
ESF #11	Agriculture + Natural Resources
ESF #12	Energy
ESF #13	Public Safety + Security
ESF #14	Long-Term Community Recovery + Mitigation
ESF #15	External Affairs
ESF #16	Military Support + Civil Authorities

- ☐ The local Emergency Manager can play an important role in coordinating the Incident Commanders request of regional, state, and federal resources. The Emergency Manager and his/her Emergency Operations Team should be well versed in following the access requirements to order and mobilize outside resources efficiently and effectively. attaining support available regionally, state, and federally e.g., ESF 10.

Reference: https://www.fema.gov/sites/default/files/2020-07/fema_nims_mutual_aid_guideline_20171105.pdf

- ☐ Facility liaison to the public safety command, providing critical information about system operations, life safety concerns, hazard analysis of the Hazard Zone (danger area), and responder support such as decon showers, fire protection support, surveillance, and monitoring information.

- ☐ Operations and Technician Support

- ☐ Technical Specialist A - Advanced knowledge about facilities, operations, and emergency response support to include entering the danger area for incidental control of a problem).

- ☐ Specialist B - Trained and equipped to respond to incidents involving chemicals and can provide technical advice and

assistance within the Hot Zone danger area.

- ☐ Specialist C – Trained to advise and offer informational assistance but cannot enter the danger area.
- ☐ The Unified Command Team Leader must plan forward for resources. The availability for resources to address Level 3 Response and FEMA Type 2 and 1 classified major emergencies e.g., regionally, or federally proclaimed disaster events. The local, county, regional, state, and federal National Response Framework (IS 700 and 800 FEMA training). The following are recommended resources that are likely available to your jurisdiction:

<https://www.fema.gov/pdf/emergency/nrf/nrf-annexes-all.pdf>

ESF #5 will include access to Type 4 and Type 5 Incident Management Team Support. ESF #10 is a frequently used annex to the local hazmat area plan. The federal support provided for hazmat may also be linked to other support functions associated with the transport, storage, and dispensing of chemicals. The scope of ESF #10 includes the appropriate actions to prepare for and respond to a threat to public health, welfare, or the environment caused by actual or potential oil and hazardous materials incidents. For purposes of this annex, “hazardous materials” is a general term intended to mean hazardous substances, pollutants, and contaminants as defined in the NCP.¹ Hazardous materials include chemical, biological, radiological, and nuclear substances, whether accidentally or intentionally released. When responding under the Stafford Act, however, ESF #10 may be used to take actions and respond to environmental contamination beyond what is covered by the NCP.

The on-going IMAAC plume models should be available to support IAP objectives needed for on and off-site receptors and response challenges. The IMAAC model should be continued with ground truth information that can be passed along to IMAAC through ChemResponder.

- Request IMMAG to give “Steady State” and “plume regression timing” so that the longer term impacts can be planned for monitoring, mitigating, and preparing public Shelter-in-Place and other life safety concerns.
- Address how community information and sheltering information will be addressed; how the joint messaging and notification process would occur - social media, emergency notification application, media, etc.

The containment and control plan may be supported by diagrams, pictures, and master maps that will indicate how to approach the release, how to locate the appropriate control valves and system control measures. The ASTI One Plan Red Playbook is extremely helpful in setting up the containment and control plan.

The local EM will coordinate with the field incident commander when addressing the notification, situation status, and response support provided by regional, state, and federal agency support.

- Ensure that the safety in the control zones and downwind/downstream receptors is properly managed. Include the facility Risk Management Plan (RMP) and/or master map identification of key life safety and environmental receptors.
- Ensure that the safety in the control zones and downwind/downstream receptors is properly managed. Include the facility Risk Management Plan (RMP) and/or master map identification of key life safety and environmental receptors.
- Purposeful and properly prepared use of water on ammonia releases. Do not use Water on Ammonia aerosol or liquid unless there is a compelling purpose for stopping or significantly improving the downwind threat. Make sure that run-off risks are mitigated adequately. Use exhaust fans to dilute or deflect vapor. Use tarp-cover protocol (by trained and PPE equipped responders) to contain the aerosol and support the self-refrigeration of the pressure vessel or system that is releasing the liquid.

The ammonia vapor from an aerosol will continue to drive on the cold trail left by the aerosol/dense gas cloud until the entire contents of the tank or pressure vessel is emptied UNLESS responders isolate the liquid flow, vent vapor to initial self-refrigerating of the liquid to below its boiling point.

Optional Response Guidance that is accepted and utilized by the local AHJ approval:

- FEMA framework for determining emergency incident complexity to establish AHJ “Levels of Concern” response guidance. <https://www.fema.gov/sites/default/files/documents/nims-incident-complexity-guide.pdf>

- ❑ DOT Emergency Response Guidebook recommendations on chemical quick guides, PPE, general emergency response guidance, Isolation/Protective Action control zones
<https://www.phmsa.dot.gov/hazmat/erg/emergency-response-guidebook-erg>
- ❑ EPA One Plan – Integrated Contingency Plan <https://www.nrt.org/sites/2/files/icppres1996.pdf> and <https://www.govinfo.gov/app/details/FR-1996-06-05/96-13712>
- ❑ ASTI One Plan Playbooks and All-Hazards Response Guidebook <https://one-plan.org/#:~:text=ONE%20PLAN%20RESPONSE,with%20a%20potential%20chemical%20outbreak.>
- ❑ WISER Acute Exposure Guidance Level for Ammonia and other chemicals
<https://webwiser.nlm.nih.gov/substance?substanceId=315&catId=166>
- ❑ Rapid Rescue Techniques <https://firescope.caloes.ca.gov/ICS%20Documents/ICS-1101.pdf>
- ❑ Refrigerating Engineers and Technicians Association (RETA) <https://reta.com>
- ❑ International Institute of Ammonia Refrigeration (IIAR) <https://www.iiar.org>

Public Safety Incident Commander coordination with local Emergency Manager to engage the free FEMA ChemResponder program and/ or link to the free IMAAC advanced plume modeling connection with the Department of Defense and/or within the free FEMA ChemResponder program.

- ❑ FEMA ChemResponder platform <https://www.chemresponder.net/> as situation response support system that links facility, public safety, and emergency manager
https://www.fema.gov/sites/default/files/2020-07/fema_cbrn_chemresponder_fact-sheet.pdf .
- ❑ IMAAC (Interagency Modeling and Atmospheric Assessment Center) advanced plume modeling
<https://www.fema.gov/emergency-managers/practitioners/hazardous-response-capabilities/imaac>

APPENDIX 2: EMERGENCY MEDICAL AND HEALTH CONSIDERATIONS

PREPAREDNESS SUPPORT FROM ATSDR Agency for Toxic Substances and Disease Registry

- ☐ Medical Management Guidelines for Ammonia:
<https://wwwn.cdc.gov/TSP/MMG/MMGDetails.aspx?mmgid=7&toxid=2>
- ☐ Toxicological Profile for Ammonia: <https://www.atsdr.cdc.gov/toxprofiles/tp126.pdf>
- ☐ One Page summary of Ammonia: <https://www.atsdr.cdc.gov/toxfaqs/tfacts126.pdf>

PREPAREDNESS AND EARLY RESPONSE MED/HEALTH CONSIDERATIONS:

- ☐ Has there been proper communication from the field to Dispatch and to the hospital system(s)?
- ☐ Safe response route (approaching from the upwind) and staging area for treatment and transport (located safely upwind and/or within an inside sheltered location).
- ☐ Medical liaison with the command team that is prepared e.g., with PPE and chemical training, to address all the Medical/Health Considerations.
- ☐ Pre-planned medical response to ammonia facilities and their downwind protective action zone plume model indications.
 - ☐ Is there adequate on-scene decontamination equipment and staff available?
 - ☐ Wet/dry decon protocols
 - ☐ Fans, blankets, debris bags, clean/dry clothing
 - ☐ Will Dispatch notify responding units to other calls, but still in the general area, that there is of a HazMat event also occurring?
 - ☐ Methods of addressing life threatening medical emergency calls that are located within the Isolation or Protective Action zones.

WILL THE RESPONDING PRIVATE AMBULANCES NEED FIRE/HAZMAT ASSISTANCE WITH PPE/DONNING/DOFFING?

- ☐ The objective is for the hazmat rescue team to bring the victims to decon and then to triage/treatment areas.
- ☐ The EMS team respiratory protection would need to be planned locally with AHJ consideration.
- ☐ There should be adequate fire service support to participate in the decon and movement of victims to safe triage and treatment areas.
- ☐ A fan could be used to clear the air of off-gas and/or fugitive ammonia gas. The levels of ammonia gas should be monitored by an assigned safety officer or ammonia monitoring team member.

PRE-EVENT READINESS FOR AMMONIA DECONTAMINATION and FIRST AID MEASURES,

- ☐ Status of local first responder ammonia emergency medical training and first-aid supplies needed to sustain medical and decontamination challenges until public safety and emergency medical technicians can assume command and control of the victims care.
- ☐ AHJ status for triage and treatment protocols for all types of ammonia related injuries. Special focus on respiratory, eyesight, and skin freeze-burns (thaw with water before removing so that skin tissue isn't further damaged).
- ☐ Utilize "Hasty Decon" as the first step in preparing a victim for medical care (see

HOSPITAL READINESS FOR CHEMICAL EMERGENCIES:

- ☐ What role does Public Health play in the early response?
- ☐ How well do the hospitals coordinate with field response?
- ☐ Unified Command and or liaison would be the case for multi-casualty command team approach.

DO LOCAL HOSPITALS UTILIZE HOSPITAL ICS (HICS)?

- ☐ Does the local HICS integrate with the field command use of ICS?
- ☐ HICS integrates with ICS as it is the same. The HICS version just adds positions and data that the field would not need...Just like Fire and Law have jobs that the others do not.

Note: The hospital would not likely be a part of the Unified Command on scene. Patient destination is an EMS/Control Facility decision (the Control Facility may be a hospital that is not affected or close to the scene). The hospital would most likely have a liaison in the County EOC as part of the Medical/Health Branch under Operations Section.

- ☐ How well does local Fire/HazMat help with medical response training and exercise for chemical events?
- ☐ How would the local community Emergency Manager play support the overall resource needs and coordination efforts with the community response, e.g., regional support and liaison with law and mass casualty transport and supply requests?
- ☐ Is the hospital's triage, decon, chemical injury treatment knowledge and equipment ready to go at a moment's notice?
- ☐ Hospital command and control plan for chemical injury treatment – respiratory, skin burns, advanced decon, and triage assessment.
- ☐ How can local Fire/HazMat help them with this?
- ☐ Who coordinates request for transport and treatment at specialty centers play?
- ☐ Where are the nearest Burn Center, Trauma Center, and/or Pediatric Center mapped out and pre-planned to accept victims of a chemical exposure event?
- ☐ How and at what point will the hospital need to decompress to a Skilled Nursing Facility to receive a high volume of patients?
- ☐ How would governmental organization(s) decide how and when to utilize Critical Access Hospitals for injured victims of a chemical event?
- ☐ Who is authorized to initiate and follow-through on additional EMS resources and special treatment support ordered by the incident commander and/or medical officer in charge? This is in each Local EMSA policy and procedure. There isn't a question.

MED/HEALTH CONSIDERATIONS LATER IN THE RESPONSE:

- ☐ Hospital Surge on the EMS system locally, regionally, and statewide?
- ☐ Hospital Where are the highest level of Surge impact on hospitals in the unaffected areas
- ☐ What regional and/or statewide organizations support the management of surge demand?
- ☐ hat is Public Health's role in the long term?

- ☐ How does the public health and Environmental Response liaison with field command and the local area emergency manager?
- ☐ Who handles the Behavioral Health needs during long term patient and community recovery?
- ☐ Other med/health system recovery concerns?

DRILL: HASTY PERSONAL DECONTAMINATION (CHEMICAL AGENT)

The majority of the content of this section was take from <https://www.uh.edu/bti/houston-region-complex-coordinated-terrorist-attack-seminar-series/tools-for-first-responders/drill--hasty-personal-decontamination-chemical-agent.pdf> The ASTI team added ammonia specific concerns.

- ☐ Condition: Upon warning of possible exposure to chemical agent(s), with and without
- ☐ access to shower and/or running water.
- ☐ Standards: Remove contaminated clothing, wash/wipe your exposed body surfaces.
- ☐ Contain contamination and prepare for disposal of exposed clothing and materials.
- ☐ Warning when removing ammonia contaminated clothing: **An aerosol (jet stream of liquid mixed with dense gas) can sure that the clothing isn't frozen to the skin**
 - Quickly take off clothing that has a chemical on it. Any clothing that has to be
- ☐ pulled over your head should be cut off instead of being pulled over your head.
 - If you are helping other people remove their clothing, try to avoid touching any
- ☐ contaminated areas of clothing and remove the clothing as quickly as possible.
 - Wash Yourself
 - As quickly as possible, wash any chemicals from your skin with large amounts of
- ☐ soap and water. Washing with soap and water will help protect you from any
- ☐ chemicals on your body.
 - If your eyes are burning or your vision is blurred, rinse your eyes with plain water
- ☐ for 10 to 15 minutes. If you wear contacts, remove them and put them with the
- ☐ contaminated clothing. Do not put the contacts back in your eyes (even if they
- ☐ are not disposable contacts). If you wear eyeglasses, wash them with soap and
- ☐ water. You can put your eyeglasses back on after you wash them.
 - Dispose of Your Clothes
 - After you have washed yourself, place your clothing inside a plastic bag. Avoid touching contaminated areas of clothing.
 - If you can't avoid touching contaminated areas, or you aren't sure where the contaminated areas are, wear
- ☐ rubber gloves or put the clothing in the bag using tongs, tool handles, sticks, or
- ☐ similar objects. Anything that touches the contaminated clothing should also be
- ☐ placed in the bag. If you wear contacts, put them in the plastic bag, too.

- Seal the bag, and then seal that bag inside another plastic bag. Disposing of your
- clothing in this way will help protect you and other people from any chemicals
- that might be on your clothes.
 - When the local or state health department or emergency personnel arrive, tell
- them what you did with your clothes. The health department or emergency
- personnel will arrange for further disposal. Do not handle the plastic bags
- yourself.
 - After you have removed your clothing, washed yourself, and disposed of your
- clothing, you should dress in clothing that is not contaminated. Clothing that has
- been stored in drawers or closets is unlikely to be contaminated, so it would be a
- good choice for you to wear.
- You should avoid coming in contact with other people who may have been exposed but
- who have not yet changed their clothes or washed.
- Follow the directions of Emergency Coordinators. Move away from the area where the
- chemical was released when Emergency Coordinators tell you to do so.

APPENDIX 3: REGULATORY LINK TO CONOPS

OSHA and EPA Regulatory Overview and Use of Best Practice SOPs.

Appendix 2 provides the regulatory framework that defines the OSHA regulatory expectations for worker safety and training for addressing the loss of chemical hazard containment.

The initial national framework for local chemical emergency planning began in the 1980's. The Clean Water Act initiated a Congressional requirement to define the effectiveness of prevention, response, preparedness, and recovery operations. The National Response Team formulated the One Plan concept of operations and a Hazardous Materials Emergency Response Guide to support the local emergency planning for chemical emergency events; see the following link.

https://www.epa.gov/sites/default/files/2014-09/documents/cleannrt10_12_distiller_complete.pdf

2.2.3 Understanding the Special Importance of Local Governments For several reasons, local governments have a critical role to play in the development of emergency preparedness.

A. First, local governments bear major responsibilities for protecting public health and safety; local police and fire departments, for example, often have the lead responsibility for the initial response to incidents involving hazardous materials.

B. Second, one of the functions of local government is to mediate and resolve the sometimes competing ideas of different interest groups.

C. local governments have the resources to gather necessary planning data.

D. local governments generally have the legislative authority to raise funds for equipment and personnel required for emergency response. Support from the executive and legislative branches is essential to successful planning. Appropriate government leaders must give adequate authority to those responsible for emergency planning.

2.2.4 Getting Local Industry Involved Because fixed-facility and transportation company employers and operators are concerned about public health and safety in the event of an accidental release of a hazardous material, and because many facility employees have technical expertise that will be helpful to the planning team, the team should include one or more facility and transportation company representatives. EPCRA requires facility employers or operators to notify the emergency planning committee of a facility representative who will participate in the emergency planning process as a facility emergency coordinator.

In planning districts that include several fixed facilities, one or more representative facility emergency coordinators could be active members of the planning team. The planning team could consult with the other facility emergency coordinators and assign them to task forces or committees (see Section 2.3.2).

<https://www.epa.gov/epcra> EPCRA has four major provisions: Emergency planning (sections 301-303), emergency release notification (Section 304), hazardous chemical storage reporting requirements (Sections 311-312), and toxic chemical release inventory (Section 313).

EPCRA also requires facilities to submit to the local emergency planning committee any information needed to develop the plan. In some communities, transportation companies may be the major contributor to the presence of hazardous materials in the community. The presence of a representative will almost always be an important contribution. 2.2.5 Determining the Size of Planning Team For the planning team to function effectively, its size should be limited to a workable number. In communities with many interested parties, it will be necessary to select from among them carefully so as to ensure fair and comprehensive representation. Some individuals may feel left out of the planning process. People should be given access to the process through the various approaches noted in the following sections, such as

membership on a task force or advisory council. In addition, all interested parties should have an opportunity for input during the review process.

The National Response Team developed the guidance details for all hazardous materials plans. The following website includes information about the One Plan – Integrated Contingency Plan.

<https://www.nrt.org/main/Resources.aspx?ResourceType=Regulations&ResourceSection=1>

The NRT created the Integrated Contingence Plan, also known as the One Plan, focuses on emergency preparedness for the four stages of response (Discovery, Initial Response, Sustained Response, and Termination/Recovery).

<https://www.epa.gov/epcra/emergency-planning>

Local (LEPC – City, County and regional) and state (State Emergency Response Council) agency plans include fire/hazmat Area Plans and/or an ESF 10 federal plan for coordinated hazmat needs. The AHJ response agencies may represent emergency management, law enforcement, medical response, environmental health, public works, and non-government organizations e.g., Red Cross and private sector industrial facilities and technical advisors involved with ammonia emergency response.

Local or Tribal Emergency Planning Committees (LEPCs or TEPCs) must develop an emergency response plan, review the plan at least annually, and provide information about chemicals in the community to citizens. Plans are developed by Local or Tribal Emergency Planning Committees (LEPCs or TEPCs) with stakeholder participation. The Local or Tribal Emergency Planning Committee (LEPC or TEPC) membership must include (at a minimum):

Elected state and local or tribal officials

Police, fire, civil defense, and public health professionals

Environment, transportation, and hospital officials

Facility representatives

Representatives from community groups and the media

State Emergency Response Commission (SERC) Resources

Local Emergency Planning Committee (LEPC) Resources

Find your State Emergency Response Commission (SERC)

Please contact your State Emergency Response Commission (SERC) to find your Local or Tribal Emergency Planning Committee (LEPC or TEPC)

The National Response Framework developed by FEMA provides the guidance for the overall response system in the United States. [https://www.fema.gov/emergency-managers/national-preparedness/frameworks/response#:~:text=Emergency%20Support%20Functions%20\(ESFs\)%20provide,Federal%20response%20to%20an%20incident](https://www.fema.gov/emergency-managers/national-preparedness/frameworks/response#:~:text=Emergency%20Support%20Functions%20(ESFs)%20provide,Federal%20response%20to%20an%20incident).

<https://www.epa.gov/epcra/emergency-planning#303>

Section 303: Comprehensive Emergency Response Plans

Level I. A minor situation within the capabilities of first responders trained at the “operational” level. A Level I incident involves a release, or possible release, of a small amount of gas, liquid or solid of a known (identified) hazardous material.

Tier I is required by federal law; Tier II is required only upon request by the Local Emergency Planning Committee or the State Emergency Response Commission. However, a covered facility may submit Tier II forms instead of Tier I forms.

Local and Tribal Emergency Planning Committee (LEPC and TEPC) Responsibilities [\[42 U.S.C. 11003\]](#)

Local and Tribal Emergency Planning Committees (LEPCs and TEPCs) are responsible for developing and maintaining comprehensive emergency response plans and submitting these plans to the State or Tribal Emergency Response Commission (SERC or TERC). Local or Tribal Emergency Planning Committees (LEPCs or TEPCs) should review the plans annually, or more frequently as circumstances change within the community or at any facility.

Each emergency plan shall include (but is not limited to) each of the following:

1. Identification of Section 302 regulated facilities, Extremely Hazardous Substance transportation routes, and additional facilities that add risk or have risk because they are located near high-risk facilities or transportation routes (e.g., natural gas facilities or hospitals)
2. Description of response procedures for facility employers and operators, local emergency personnel, and local medical personnel
3. Designation of a community emergency coordinator and facility emergency coordinators
4. Outline of release notification procedures
5. Description of methods for determining when releases have occurred and evaluating what the affected areas or populations are
6. Description of community and industry resources available for response
7. Outline of evacuation plans
8. Description of training program for emergency response and medical personnel
9. Description of methods and schedules for exercising the emergency plan

Facility Responsibilities [\[40 CFR 355.20 \(c\) and \(d\); 42 U.S.C. 11003\]](#)

Facility responsibilities for Section 303 are included above in [Section 302 Emergency Planning Notification](#).

State and Tribal Emergency Response Commission (SERC and TERC) Responsibilities [\[42 U.S.C 11003\(e\)\]](#)

State and Tribal Emergency Response Commissions (SERCs and TERCs) are required to review the emergency response plan submitted by the Local and Tribal Emergency Planning Committees (LEPCs and TEPCs) and recommend revisions to the plan that may be necessary to ensure coordination with emergency response plans of other emergency planning districts.

- [EPCRA Home](#)
- [About EPCRA](#)
- [Emergency Planning](#)
 - [State Emergency Response Commissions](#)
 - [Local Emergency Planning Committees](#)
- [Emergency Release Notifications](#)

- [Hazardous Chemical Inventory Reporting](#)
- [EPCRA Trade Secrets](#)
- [EPCRA Site Map](#)

OSHA and EPA - Emergency Action Plan and Response Plan Options.

The CONOPS content provides the Authority Having Jurisdiction (AHJ) for local, regional, and state response agencies to use for local jurisdiction's operational plans.

The following template of strategic decisions addresses many of the operational opportunities that the AHJ may want to consider when updating their local CONOPS.

- **Review Scope of Project:**
 - Process Safety Information
 - Equipment in the Process
 - Process Hazard Analysis
 - Operating Procedures
 - Employee Training
 - Training Contractors
 - Pre-Startup Safety Review
 - Mechanical Integrity of Equipment
 - Management of Change
 - Incident Investigation
 - Emergency Preparedness
 - Compliance Audits
 - Trade Secrets

Risk Management Plans (RMP)

<https://www.epa.gov/rmp> and the Process Safety Management (PSM) requirements

<https://www.osha.gov/process-safety-management> play strongly into the ability for the emergency responders to be prepared to prevent, mitigate, and predict the escalating factors that will impact the command team level of engagement. PSM requires that equipment and systems within a facility has operating procedures that address how to engage emergency system control plans to address a possible loss of containment.

<https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.119>

OSHA Emergency Planning and Training Requirements.

[1910.120\(q\)](#)

Emergency response to hazardous substance releases. This paragraph covers employers whose employees are engaged in emergency response no matter where it occurs except that it does not cover employees engaged in operations specified in paragraphs (a)(1)(i) through (a)(1)(iv) of this section. Those emergency response organizations who have developed and implemented programs equivalent to this paragraph for handling releases of hazardous substances pursuant to section 303 of the Superfund Amendments and Reauthorization Act of 1986 (Emergency Planning and Community Right-to-Know Act of 1986, 42 U.S.C. 11003) shall be deemed to have met the requirements of this paragraph.

[1910.120\(q\)\(1\)](#)

Emergency response plan. An emergency response plan shall be developed and implemented to handle anticipated emergencies prior to the commencement of emergency response operations. The plan shall be in writing and available for inspection and copying by employees, their representatives and OSHA personnel. Employers who will evacuate their employees from the danger area when an emergency occurs, and who do not permit any of their employees to assist in handling the emergency, are exempt from the requirements of this paragraph if they provide an emergency action plan in accordance with 29 CFR 1910.38.

[1910.120\(q\)\(2\)](#)

Elements of an emergency response plan. The employer shall develop an emergency response plan for emergencies which shall address, as a minimum, the following to the extent that they are not addressed elsewhere:

1910.120(q)(2)(i)

Pre-emergency planning and coordination with outside parties.

1910.120(q)(2)(ii) Personnel roles, lines of authority, training, and communication.	Decontamination.
1910.120(q)(2)(iii) Emergency recognition and prevention.	1910.120(q)(2)(viii) Emergency medical treatment and first aid.
1910.120(q)(2)(iv) Safe distances and places of refuge.	1910.120(q)(2)(ix) Emergency alerting and response procedures.
1910.120(q)(2)(v) Site security and control.	1910.120(q)(2)(x) Critique of response and follow-up.
1910.120(q)(2)(vi) Evacuation routes and procedures.	1910.120(q)(2)(xi) PPE and emergency equipment.
1910.120(q)(2)(vii)	1910.120(q)(2)(xii)

Emergency response organizations may use the local emergency response plan or the state emergency response plan or both, as part of their emergency response plan to avoid duplication. Those items of the emergency response plan that are being properly addressed by the SARA Title III plans may be substituted into their emergency plan or otherwise kept together for the employer and employee's use.

1910.120(q)(3)

Procedures for handling emergency responses.

1910.120(q)(3)(i)

The senior emergency response official responding to an emergency shall become the individual in charge of a site-specific Incident Command System (ICS). All emergency responders and their communications shall be coordinated and controlled through the individual in charge of the ICS assisted by the senior official present for each employer.

Note to paragraph (q)(3)(i): The "senior official" at an emergency response is the most senior official on the site who has the responsibility for controlling the operations at the site. Initially it is the senior officer on the first-due piece of responding emergency apparatus to arrive on the incident scene. As more senior officers arrive (i.e., battalion chief, fire chief, state law enforcement official, site coordinator, etc.) the position is passed up the line of authority which has been previously established.

1910.120(q)(3)(ii)

The individual in charge of the ICS shall identify, to the extent possible, all hazardous substances or conditions present and shall address as appropriate site analysis, use of engineering controls, maximum exposure limits, hazardous substance handling procedures, and use of any new technologies.

1910.120(q)(3)(iii)

Based on the hazardous substances and/or conditions present, the individual in charge of the ICS shall implement appropriate emergency operations and assure that the personal protective equipment worn is appropriate for the hazards to be encountered. However, personal protective equipment shall meet, at a minimum, the criteria contained in 29 CFR 1910.156(e) when worn while performing fire fighting operations beyond the incipient stage for any incident.

1910.120(q)(3)(iv)

Employees engaged in emergency response and exposed to hazardous substances presenting an inhalation hazard or potential inhalation hazard shall wear positive pressure self-contained breathing apparatus while engaged in emergency response, until such time that the individual in charge of the ICS determines through the use of air monitoring that a decreased level of respiratory protection will not result in hazardous exposures to employees.

1910.120(q)(3)(v)

The individual in charge of the ICS shall limit the number of emergency response personnel at the emergency site, in those areas of potential or actual exposure to incident or site hazards, to those who are actively performing emergency operations. However, operations in hazardous areas shall be performed using the buddy system in groups of two or more.

1910.120(q)(3)(vi)

Back-up personnel shall stand by with equipment ready to provide assistance or rescue. Advance first aid support personnel, as a minimum, shall also stand by with medical equipment and transportation capability.

1910.120(q)(3)(vii)

The individual in charge of the ICS shall designate a safety official, who is knowledgeable in the operations being implemented at the emergency response site, with specific responsibility to identify and evaluate hazards and to provide direction with respect to the safety of operations for the emergency at hand.

1910.120(q)(3)(viii)

When activities are judged by the safety official to be an IDLH condition and/or to involve an imminent danger condition, the safety official shall have the authority to alter, suspend, or terminate those activities. The safety official shall immediately inform the individual in charge of the ICS of any actions needed to be taken to correct these hazards at the emergency scene.

1910.120(q)(3)(ix)

After emergency operations have terminated, the individual in charge of the ICS shall implement appropriate decontamination procedures.

1910.120(q)(3)(x)

When deemed necessary for meeting the tasks at hand, approved self-contained compressed air breathing apparatus may be used with approved cylinders from other approved self-contained compressed air breathing apparatus provided that such cylinders are of the same capacity and pressure rating. All compressed air cylinders used with self-contained breathing apparatus shall meet U.S. Department of Transportation and National Institute for Occupational Safety and Health criteria.

1910.120(q)(4)

Skilled support personnel. Personnel, not necessarily an employer's own employees, who are skilled in the operation of certain equipment, such as mechanized earth moving or digging equipment or crane and hoisting equipment, and who are needed temporarily to perform immediate emergency support work that cannot reasonably be performed in a timely fashion by an employer's own employees, and who will be or may be exposed to the hazards at an emergency response scene, are not required to meet the training required in this paragraph for the employer's regular employees. However, these personnel shall be given an initial briefing at the site prior to their participation in any emergency response. The initial briefing shall include instruction in the wearing of appropriate personal protective equipment, what chemical hazards are involved, and what duties are to be performed. All other appropriate safety and health precautions provided to the employer's own employees shall be used to assure the safety and health of these personnel.

1910.120(q)(5)

Specialist employees. Employees who, in the course of their regular job duties, work with and are trained in the hazards of specific hazardous substances, and who will be called upon to provide technical advice or assistance at a hazardous substance release incident to the individual in charge, shall receive training or demonstrate competency in the area of their specialization annually.

1910.120(q)(6)

Training. Training shall be based on the duties and function performed by each responder of an emergency response organization. The skill and knowledge levels required for all new responders, those hired after the effective date of this standard, shall be conveyed to them through training before they are permitted to take part in actual emergency operations on an incident. Employees who participate, or are expected to participate, in emergency response, shall be given training in accordance with the following paragraphs:

1910.120(q)(6)(i)

First responder awareness level. First responders at the awareness level are individuals who are likely to witness or discover a hazardous substance release and who have been trained to initiate an emergency response sequence by notifying the proper authorities of the release. They would take no further action beyond notifying the authorities of the release. First responders at the awareness level shall have sufficient training or have had sufficient experience to objectively demonstrate competency in the following areas:

1910.120(q)(6)(i)(A)

An understanding of what hazardous substances are, and the risks associated with them in an incident.

1910.120(q)(6)(i)(B)

An understanding of the potential outcomes associated with an emergency created when hazardous substances are present.

1910.120(q)(6)(i)(C)

The ability to recognize the presence of hazardous substances in an emergency.

1910.120(q)(6)(i)(D)

The ability to identify the hazardous substances, if possible.

1910.120(q)(6)(i)(E)

An understanding of the role of the first responder awareness individual in the employer's emergency response plan including site security and control and the U.S. Department of Transportation's Emergency Response Guidebook.

1910.120(q)(6)(i)(F)

The ability to realize the need for additional resources, and to make appropriate notifications to the communication center.

1910.120(q)(6)(ii)

First responder operations level. First responders at the operations level are individuals who respond to releases or potential releases of hazardous substances as part of the initial response to the site for the purpose of protecting nearby persons, property, or the environment from the effects of the release. They are trained to respond in a defensive fashion without actually trying to stop the release. Their function is to contain the release from a safe distance, keep it from spreading, and prevent exposures. First responders at the operational level shall have received at least eight hours of training or have had sufficient experience to objectively demonstrate competency in the following areas in addition to those listed for the awareness level and the employer shall so certify:

1910.120(q)(6)(ii)(A)

Knowledge of the basic hazard and risk assessment techniques.

1910.120(q)(6)(ii)(B)

Know how to select and use proper personal protective equipment provided to the first responder operational level.

1910.120(q)(6)(ii)(C)

An understanding of basic hazardous materials terms.

1910.120(q)(6)(ii)(D)

Know how to perform basic control, containment and/or confinement operations within the capabilities of the resources and personal protective equipment available with their unit.

1910.120(q)(6)(ii)(E)

Know how to implement basic decontamination procedures.

1910.120(q)(6)(ii)(F)

An understanding of the relevant standard operating procedures and termination procedures.

1910.120(q)(6)(iii)

Hazardous materials technician. Hazardous materials technicians are individuals who respond to releases or potential releases for the purpose of stopping the release. They assume a more aggressive role than a first responder at the operations level in that they will approach the point of release in order to plug, patch or otherwise stop the release of a hazardous substance. Hazardous materials technicians shall have received at least 24 hours of training equal to the first responder operations level and in addition have competency in the following areas and the employer shall so certify:

1910.120(q)(6)(iii)(A)

Know how to implement the employer's emergency response plan.

1910.120(q)(6)(iii)(B)

Know the classification, identification, and verification of known and unknown materials by using field survey instruments and equipment.

1910.120(q)(6)(iii)(C)

Be able to function within an assigned role in the Incident Command System.

1910.120(q)(6)(iii)(D)

Know how to select and use proper specialized chemical personal protective equipment provided to the hazardous materials technician.

1910.120(q)(6)(iii)(E)

Understand hazard and risk assessment techniques.

1910.120(q)(6)(iii)(F)

Be able to perform advance control, containment, and/or confinement operations within the capabilities of the resources and personal protective equipment available with the unit.

1910.120(q)(6)(iii)(G)

Understand and implement decontamination procedures.

1910.120(q)(6)(iii)(H)

Understand termination procedures.

1910.120(q)(6)(iii)(I)

Understand basic chemical and toxicological terminology and behavior.

1910.120(q)(6)(iv)

Hazardous materials specialist. Hazardous materials specialists are individuals who respond with and provide support to hazardous materials technicians. Their duties parallel those of the hazardous materials technician; however, those duties require a more directed or specific knowledge of the various substances they may be called upon to contain. The hazardous materials specialist would also act as the site liaison with Federal, state, local and other government authorities in regard to site activities. Hazardous materials specialists shall have received at least 24 hours of training equal to the technician level and in addition have competency in the following areas and the employer shall so certify:

1910.120(q)(6)(iv)(A)

Know how to implement the local emergency response plan.

1910.120(q)(6)(iv)(B)

Understand classification, identification, and verification of known and unknown materials by using advanced survey instruments and equipment.

1910.120(q)(6)(iv)(C)

Know of the state emergency response plan.

1910.120(q)(6)(iv)(D)

Be able to select and use proper specialized chemical personal protective equipment provided to the hazardous materials specialist.

1910.120(q)(6)(iv)(E)

Understand in-depth hazard and risk techniques.

1910.120(q)(6)(iv)(F)

Be able to perform specialized control, containment, and/or confinement operations within the capabilities of the resources and personal protective equipment available.

1910.120(q)(6)(iv)(G)

Be able to determine and implement decontamination procedures.

1910.120(q)(6)(iv)(H)

Have the ability to develop a site safety and control plan.

1910.120(q)(6)(iv)(I)

Understand chemical, radiological, and toxicological terminology and behavior.

1910.120(q)(6)(v)

On scene incident commander. Incident commanders, who will assume control of the incident scene beyond the first responder awareness level, shall receive at least 24 hours of training equal to the first responder operations level and in addition have competency in the following areas and the employer shall so certify:

1910.120(q)(6)(v)(A)

Know and be able to implement the employer's incident command system.

1910.120(q)(6)(v)(B)

Know how to implement the employer's emergency response plan.

1910.120(q)(6)(v)(C)

Know and understand the hazards and risks associated with employees working in chemical protective clothing.

1910.120(q)(6)(v)(D)

Know how to implement the local emergency response plan.

1910.120(q)(6)(v)(E)

Know of the state emergency response plan and of the Federal Regional Response Team.

1910.120(q)(6)(v)(F)

Know and understand the importance of decontamination procedures.

1910.120(q)(7)

Trainers. Trainers who teach any of the above training subjects shall have satisfactorily completed a training course for teaching the subjects they are expected to teach, such as the courses offered by the U.S. National Fire Academy, or they shall have the training and/or academic credentials and instructional experience necessary to demonstrate competent instructional skills and a good command of the subject matter of the courses they are to teach.

1910.120(q)(8)

Refresher training.

1910.120(q)(8)(i)

Those employees who are trained in accordance with paragraph (q)(6) of this section shall receive annual refresher training of sufficient content and duration to maintain their competencies, or shall demonstrate competency in those areas at least yearly.

1910.120(q)(8)(ii)

A statement shall be made of the training or competency, and if a statement of competency is made, the employer shall keep a record of the methodology used to demonstrate competency.

[1910.120\(q\)\(9\)](#)

Medical surveillance and consultation.

[1910.120\(q\)\(9\)\(i\)](#)

Members of an organized and designated HAZMAT team and hazardous materials specialists shall receive a baseline physical examination and be provided with medical surveillance as required in paragraph (f) of this section.

1910.120(q)(9)(ii)

Any emergency response employees who exhibits signs or symptoms which may have resulted from exposure to hazardous substances during the course of an emergency incident either immediately or subsequently, shall be provided with medical consultation as required in paragraph (f)(3)(ii) of this section.

1910.120(q)(10)

Chemical protective clothing. Chemical protective clothing and equipment to be used by organized and designated HAZMAT team members, or to be used by hazardous materials specialists, shall meet the requirements of paragraphs (g) (3) through (5) of this section.

[1910.120\(q\)\(11\)](#)

Post-emergency response operations. Upon completion of the emergency response, if it is determined that it is necessary to remove hazardous substances, health hazards, and materials contaminated with them (such as contaminated soil or other elements of the natural environment) from the site of the incident, the employer conducting the clean-up shall comply with one of the following:

[1910.120\(q\)\(11\)\(i\)](#)

Meet all of the requirements of paragraphs (b) through (o) of this section; or

[1910.120\(q\)\(11\)\(ii\)](#)

Where the clean-up is done on plant property using plant or workplace employees, such employees shall have completed the training requirements of the following: 29 CFR 1910.38, 1910.134, 1910.1200, and other appropriate safety and health training made necessary by the tasks they are expected to perform such as personal protective equipment and decontamination procedures. All equipment to be used in the performance of the clean-up work shall be in serviceable condition and shall have been inspected prior to use.

[61 FR 9227, March 7, 1996; 67 FR 67964, Nov. 7, 2002; 71 FR 16672, April 3, 2006; 76 FR 80738, Dec. 27, 2011; 77 FR 17776, March 26, 2012; 78 FR 9313, Feb. 8, 2013; 84 FR 21598, May 14, 2019]

APPENDIX 4. EPCRA and NEW RMP REQUIREMENTS

EPA Emergency Planning and Community Right-to-Know Act Requirements.

<https://www.epa.gov/epcra/emergency-planning#notification>

CONTACT US

Emergency Planning Sections 301 to 303

Overview

- Sections 301, 302, and 303 of the Emergency Planning and Community Right-to-Know Act (EPCRA) ([40 Code of Federal Regulations \(CFR\) Part 355 Subpart B](#)) are intended to help communities prepare for chemical emergencies. These provisions establish the implementing agencies, State and Tribal Emergency Response Commissions (SERCs and TERCs) and Local and Tribal Emergency Planning Committees (LEPCs and TEPCs). In addition, these provisions require facilities to report on the presence of Extremely Hazardous Substances and require Local and Tribal Emergency Planning Committees (LEPCs and TEPCs) to develop community emergency response plans and to share chemical information to citizens in the community.
- On this page:
 - [Section 301: State and Tribal Emergency Response Commissions \(SERCS and TERCs\) and Local and Tribal Emergency Planning Committees \(LEPCs and TECs\)](#)
 - [Section 302: Regulated Substances and Facilities; Emergency Planning Notification](#)
 - [Regulated Substances and Facilities](#)
 - [Emergency Planning Notification - Facility Responsibilities](#)
 - [Section 303: Comprehensive Emergency Response Plans](#)
 - [Local and Tribal Emergency Planning Committee \(LEPC and TEPC\) Responsibilities](#)
 - [Facility Responsibilities](#)
 - [State and Tribal Emergency Response Commission \(SERC and TERC\) Responsibilities](#)

EPCRA Section 301: State and Tribal Emergency Response Commissions (SERCS and TERCs) and Local and Tribal Emergency Planning Committees (LEPCs and TECs)

- EPCRA is implemented at the state, tribal, and local levels. The Governor of each state has designated a State Emergency Response Commission (SERC) that is responsible for implementing the EPCRA provisions within its state.
- For facilities located on tribal land, the chief executive officer of the tribe is responsible for the appointment of a Tribal Emergency Response Commission (TERC). A Tribal Emergency Response Commission (TERC) has similar responsibilities as a State Emergency Response Commission (SERC). Tribes may enter into a cooperative agreements with other tribes, or with the state(s) within which their lands are located to achieve a workable EPCRA program. Tribes that have entered into cooperative agreements should submit a copy of the signed agreement to the EPA Regional office for their location. [[55 Federal Register \(FR\) 30641; July 26, 1990](#)]
- The State or Tribal Emergency Response Commission (SERC or TERC) duties include:
 - Designating local emergency planning districts
 - Appointing a Local or Tribal Emergency Planning Committees (LEPC or TEPC) for each district

- Reviewing local emergency response plans
 - Supervising the activities of the Local or Tribal Emergency Planning Committees (LEPC or TEPC)
 - Establishing procedures for receiving and processing public requests for information collected under EPCRA
- ☐ Local or Tribal Emergency Planning Committees (LEPCs or TEPCs) must develop an emergency response plan, review the plan at least annually, and provide information about chemicals in the community to citizens. Plans are developed by Local or Tribal Emergency Planning Committees (LEPCs or TEPCs) with stakeholder participation. The Local or Tribal Emergency Planning Committee (LEPC or TEPC) membership must include (at a minimum):
- Elected state and local or tribal officials
 - Police, fire, civil defense, and public health professionals
 - Environment, transportation, and hospital officials
 - Facility representatives
 - Representatives from community groups and the media
- ☐ [State Emergency Response Commission \(SERC\) Resources](#)
- ☐ [Local Emergency Planning Committee \(LEPC\) Resources](#)
- ☐ [Find your State Emergency Response Commission \(SERC\)](#)
- ☐ Please [contact your State Emergency Response Commission \(SERC\)](#) to find your Local or Tribal Emergency Planning Committee (LEPC or TEPC)

EPCRA Section 302: Regulated Substances and Facilities; Emergency Planning Notification

Regulated Substances and Facilities

- ☐ You must comply with the EPCRA emergency planning requirements if any Extremely Hazardous Substance is present at your facility at any one time in an amount equal to or greater than its threshold planning quantity, or if your facility has been designated for emergency planning purposes by your State or Tribal Emergency Response Commission (SERC or TERC), Governor, or Tribal Chief Executive Officer. [\[40 CFR 355.10\]](#)
- ☐ The emergency planning requirements apply to any Extremely Hazardous Substance listed in 40 CFR Part 355 [Appendix A](#) and [Appendix B](#). States and Tribes may designate additional substances. [Check with your state or tribe](#) to determine your full list of regulated chemicals.
- ☐ To determine whether your facility has an amount of an Extremely Hazardous Substance which equals or exceeds the threshold planning quantity, the owner or operator must determine the total amount of each Extremely Hazardous Substance present at a facility at any one time, regardless of location, number of containers, or method of storage. This calculation must also consider the amount of each Extremely Hazardous Substance present in mixtures or solutions in excess of 1% and should include examination of such process components as reaction vessels, piping, etc., where formation of an Extremely Hazardous Substance as a byproduct may take place.
- ☐ If the Extremely Hazardous Substance is a non-reactive solid in solution, first multiply the quantity of the solid on-site by 0.2 before comparing it to the lower threshold planning quantity listed for the Extremely Hazardous Substance solid. If the Extremely Hazardous Substance is a molten non-reactive solid, multiply the quantity of the molten solid on-site by 0.3 before comparing it to the lower

threshold planning quantity listed for the Extremely Hazardous Substance solid. See the frequent question regarding [what is meant by "molten" and "in solution" when describing extremely hazardous substances](#).

- For assistance: [refer to the regulations](#), [contact your State or Tribal Emergency Response Commission \(SERC or TERC\)](#), or the [EPCRA Call Center](#).

Emergency Planning Notification – Facility Responsibilities

- Facilities that are determined to be regulated are subject to four types of emergency planning notifications [[40 CFR 355.20](#)]:
 1. You must provide notice to your [State or Tribal Emergency Response Commission \(SERC or TERC\)](#) and Local or Tribal Emergency Planning Committee (LEPC or TEPC), that your facility is subject to the emergency planning requirements of this subpart, within 60 days after your facility first becomes subject to the requirements of this subpart.
 2. You must designate a facility representative who will participate in the local emergency planning process as a facility emergency response coordinator. You must provide notice of this facility representative to your Local or Tribal Emergency Planning Committee (LEPC or TEPC), within 60 days after your facility first becomes subject to the requirements of this subpart.
 3. You must provide notice of any changes occurring at your facility that may be relevant to emergency planning to the Local or Tribal Emergency Planning Committee (LEPC or TEPC), within 30 days after the changes have occurred.
 4. You must provide any information necessary for developing or implementing the local emergency plan if the Local or Tribal Emergency Planning Committee (LEPC or TEPC) requests it, within the timeframe set by the Local or Tribal Emergency Planning Committee (LEPC or TEPC).
- EPA does not require any specific format. EPA recommends that you submit the information described above in writing in order to ensure appropriate documentation. The State or Tribal Emergency Response Commission (SERC or TERC) or Local or Tribal Emergency Planning Committee (LEPC or TEPC) may request that this information be submitted in a specific format. [Contact your State or Tribal Emergency Response Commission \(SERC or TERC\)](#) for your specific reporting requirements.

Section 303: Comprehensive Emergency Response Plans

Local and Tribal Emergency Planning Committee (LEPC and TEPC) Responsibilities [[42 U.S.C. 11003](#)]

- Local and Tribal Emergency Planning Committees (LEPCs and TEPCs) are responsible for developing and maintaining comprehensive emergency response plans and submitting these plans to the State or Tribal Emergency Response Commission (SERC or TERC). Local or Tribal Emergency Planning Committees (LEPCs or TEPCs) should review the plans annually, or more frequently as circumstances change within the community or at any facility.
- Each emergency plan shall include (but is not limited to) each of the following:
 1. Identification of Section 302 regulated facilities, Extremely Hazardous Substance transportation routes, and additional facilities that add risk or have risk because they are located near high-risk facilities or transportation routes (e.g., natural gas facilities or hospitals)
 2. Description of response procedures for facility employers and operators, local emergency personnel, and local medical personnel
 3. Designation of a community emergency coordinator and facility emergency coordinators

4. Outline of release notification procedures
5. Description of methods for determining when releases have occurred and evaluating what the affected areas or populations are
6. Description of community and industry resources available for response
7. Outline of evacuation plans
8. Description of training program for emergency response and medical personnel
9. Description of methods and schedules for exercising the emergency plan

Facility Responsibilities [[40 CFR 355.20 \(c\)](#) and [\(d\)](#); [42 U.S.C. 11003](#)]

- Facility responsibilities for Section 303 are included above in [Section 302 Emergency Planning Notification](#).

State and Tribal Emergency Response Commission (SERC and TERC) Responsibilities [[42 U.S.C 11003\(e\)](#)]

- State and Tribal Emergency Response Commissions (SERCs and TERCs) are required to review the emergency response plan submitted by the Local and Tribal Emergency Planning Committees (LEPCs and TEPCs) and recommend revisions to the plan that may be necessary to ensure coordination with emergency response plans of other emergency planning districts.
- [EPCRA Home](#)
- [About EPCRA](#)
- [Emergency Planning](#)
 - [State Emergency Response Commissions](#)
 - [Local Emergency Planning Committees](#)
- [Emergency Release Notifications](#)
- [Hazardous Chemical Inventory Reporting](#)
- [EPCRA Trade Secrets](#)
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Risk Management Reconsidered Executive Order Requirements



The West Texas ammonium nitrate killed 10 firefighters and 5 civilians and injured another 160 people.

The local volunteer fire department did not have pre-incident information and training on how to handle ammonium nitrate fire threats.

The event triggered an Obama Presidential Executive Order that has now evolved to new EPA requirements that target key readiness CONOPS readiness for chemical users and emergency responders. ASTI is working with EPA Region 9 to link Tabletop Exercises to the CONOPS requirements.

<p>Key Prevention, Mitigation, and Preparation Regulations</p>	<div><div>Emergency Planning and Community Right to Know Act (EPCRA)</div><div>CERCLA/Superfund Response Notification Requirements and National Response System Structure</div><div>Clean Air Act (CAA) 112r Risk Management Program applicable to Threshold Levels of Toxic Flammable and Chemical</div></div>	<p>Value of CONOPS</p> <p>The community and political expectation is that the Tripod responders will be capable of initiating and sustaining an effective response and keep the community up to date on the protective actions that they should perform.</p>																		
<p>West Texas Incident Creates revealed the Need for New Risk Management Program (RMP) Requirements.</p>	<p>West Texas Fertilizer Plant – April 17, 2013</p> <ul style="list-style-type: none">• Ammonium Nitrate Explosion 12 firefighters and 3 community members killed.• No Pre-event Plan or details about the Hazards, Risks, and Threats within the facility.• Limited Hazmat Training and Technical Support.• Command team didn’t read the escalating factors associated with the fire intensity• Strategy: Firefighting rather than Hazmat Response CONOPS	<p>Value of CONOPS</p> <p>The pre-event readiness and a response system that utilizes the information and training experiences for hazmat response is critical.</p> <p>Fire tactics on a chemical threat are NOT always effective.</p>																		
<p>- New - Risk Management Program Revisited</p> <p>https://www.epa.gov/rmp/factsheet-risk-management-program-rmp-reconsideration-final-rule</p>	<table><tr><th colspan="2">Compliance Dates: Assuming December 2019 Final Rule Effective Date</th></tr><tr><th>What?</th><th>New Requirement Due Dates</th></tr><tr><td>Public Meetings</td><td>Within 90 Days of any qualifying accident that occurs after March 15, 2021.</td></tr><tr><td>Develop Emergency Response Programs</td><td>Within 3 years of owner or operator determining the facility is subject to the provisions.</td></tr><tr><td>Develop Exercise Plans and Schedules</td><td>December 2023</td></tr><tr><td>Conduct First Notification Drill</td><td>December 2024</td></tr><tr><td>Conduct First Tabletop Exercise (TTX)</td><td>December 2026</td></tr><tr><td>Submit RMP with New Emergency Coordination Requirements.</td><td>The owner or operator would provide new information elements with any initial RMP or RMP resubmission made after December 2024.</td></tr><tr><td>Comply with New Emergency Coordination Requirements and remaining minor accident prevention provisions.</td><td>Already in effect as of September 21, 2018.</td></tr></table>	Compliance Dates: Assuming December 2019 Final Rule Effective Date		What?	New Requirement Due Dates	Public Meetings	Within 90 Days of any qualifying accident that occurs after March 15, 2021.	Develop Emergency Response Programs	Within 3 years of owner or operator determining the facility is subject to the provisions.	Develop Exercise Plans and Schedules	December 2023	Conduct First Notification Drill	December 2024	Conduct First Tabletop Exercise (TTX)	December 2026	Submit RMP with New Emergency Coordination Requirements.	The owner or operator would provide new information elements with any initial RMP or RMP resubmission made after December 2024.	Comply with New Emergency Coordination Requirements and remaining minor accident prevention provisions.	Already in effect as of September 21, 2018.	<p>Value of CONOPS</p> <p>The implementation dates are initiated in 2023 and will continue to grow in expectations through 2026 and thereafter.</p> <p>Compliance to these requirements is at the heart of the ammonia response CONOPS.</p>
Compliance Dates: Assuming December 2019 Final Rule Effective Date																				
What?	New Requirement Due Dates																			
Public Meetings	Within 90 Days of any qualifying accident that occurs after March 15, 2021.																			
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Comply with New Emergency Coordination Requirements and remaining minor accident prevention provisions.	Already in effect as of September 21, 2018.																			

CONOPS for Complying with the New Risk Management Requirements

Plan to Plume for Tripod Readiness to Address the Four Stages of Emergency Response.

Why is this subject important to the effectiveness of emergency response to ammonia?

The purpose of this action is to improve safety at facilities that use and distribute hazardous chemicals. In response to catastrophic chemical facility incidents in the United States, including the explosion that occurred at the West Fertilizer facility in West, Texas, on April 17, 2013 that killed 15 people, President Obama issued Executive Order 13650, “Improving Chemical Facility Safety and Security,” on August 1, 2013. ⁽¹⁾

Compliance Dates: [Assuming December 2019 Final Rule Effective Date]

What	Due Date
Public Meetings	Within 90 days of any qualifying accident that occurs after March 15, 2021
Develop Emergency Response Programs	Within three years of owner or operator determining that facility is subject to the provisions
Develop exercise plans and schedules	December 2023
Conduct first notification drill	December 2024
Conduct first tabletop exercise	December 2026
Conduct first field exercise	According to the exercise schedule established by the owner or operator in coordination with local response agencies
Submit RMP with new information elements	The owner or operator would provide new information elements with any initial RMP or RMP resubmission made after December 2024.
Comply with new emergency coordination requirements	Already in effect as of September 21, 2018
Comply with remaining minor accident prevention provisions	Already in effect as of September 21, 2018

Section 6(a)(i) of Executive Order 13650 requires that various Federal agencies develop options for improved chemical facility safety and security that identify “improvements to existing risk management practices through agency programs, private sector initiatives, Government guidance, outreach, standards, and regulations.” One agency program presently in existence is the **Risk Management Program**

implemented by EPA under section 112(r) of the Clean Air Act (42 U.S.C. 7412(r)). Section 6(c) of Executive Order 13650 requires the Administrator of EPA to review the chemical hazards covered by the Risk Management Program and expand, implement, and enforce the Risk Management Program to address any additional hazards

The Ammonia Response CONOPS keys area emphasis that stems from the EO are:

- Strengthening community planning and preparedness; especially the local Tripod.
- Enhancing operational coordination; pre-designated response CONOPS.
- Plan to Plume – response readiness: ALOHA, HYSPLIT, and IMAAC plume modeling.
- ChemResponder – Situational awareness response information that can be made available for local, state, and federal agencies that are invited by the Incident Commander to support the emergency response challenges. ChemResponder can host the information linked to the three previous bullets. https://www.fema.gov/sites/default/files/2020-07/fema_cbrn_chemresponder_fact-sheet.pdf

Risk Management Plan Rule <https://www.epa.gov/rmp/final-risk-management-program-rmp-reconsideration-rule#rule-summary>

FOR FURTHER INFORMATION CONTACT United States Environmental Protection Agency, Office of Land and Emergency Management,

1200 Pennsylvania Ave. NW., (Mail Code 5104A), Washington, DC 20460; telephone number: (202)564–8023; email address: belke.jim@epa.gov, or Kathy Franklin, United States Environmental Protection Agency, Office of Land and Emergency (202) 564–7987; franklin.kathy@epa.gov or your regional EPA RMP leader e.g.

Kathryn Lawrence
Region 9 EPA
Chief, Emergency Planning & Ops.

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Lawrence.Kathryn@epa.gov
Kathryn Lawrence
Emergency Prevention and Prepared...
EPA Region 94159723039United St...

Kathryn Lawrence is the Region 9 Chief of Emergency Planning and Ops. that ASTI is working with when doing Tabletop Exercises and (TTX) and CONOPS research.

Tabletop Exercise TTX/Safety Day Compliance Plan Content

The following is a summary of the RMP Reconsidered requirements that will be enforced over the next few years. The table summaries (showing the revisions from the original RMP requirements) will be on the left side of the page and the TTX/Safety Day plan will be summarized on the right side of the page.

Facility Public Meeting	
Retained with modifications the requirement that a facility must hold a public meeting within 90 days of accident with an offsite impact (i.e. known offsite deaths, injuries, evacuations, sheltering in place, property damage, or environmental damage)	<ul style="list-style-type: none"> Modified the requirement to hold a public meeting after an incident that has offsite impacts, which will be the events of greatest public interest, as contrasted with releases with onsite impacts only. In addition, public exchanges of information will improve the quality of incident investigations because the public may possess information the facility does not, such as information about public impacts. Compliance date retained from RMP Amendments rule: Comply following any RMP reportable accident with offsite impacts that occurs after March 15, 2021.

1. Public Meetings within 90 days of any qualifying accident that occurs after **March 15, 2021**

Define a “qualifying accident”

2. Develop Emergency Response Programs – **within 3 years** of owner or operator determining that facility is subject to the provisions.

Determine Emergency Action Plan and Response Plan approach

Understanding the applicability of the requirements to RMP Program 1, 2, or 3.

Understanding the State and local emergency response expectations

3. Develop plans and Schedules

Local, regional, State, and Federal connection

Identify how TTX and Safety Days achieve RMP targets.

RETAINED/MODIFIED	RATIONALE
Enhanced Local Emergency Coordination Requirements	
Retained the requirement that facilities must coordinate annually with local response organizations and document coordination activities	<ul style="list-style-type: none"> Worked well. Good coordination between facilities and local responders is critical to reducing the impact(s) of incidents. Compliance date: March 14, 2018 (Court mandate made this effective as of September 21, 2018)
Modified frequency of field exercises by removing the minimum frequency requirement of at least every ten years for field exercises; Modified to require owner/operator to consult with local emergency response officials to establish an appropriate frequency	<ul style="list-style-type: none"> Modified to reduce burden on local emergency responders – many of whom in rural areas are volunteers. Requirement for sources to have field exercises at least every ten years is impracticable because the burden it would impose on many local emergency response organizations with multiple RMP-covered facilities and small counties with limited resources – many of whom in rural areas are volunteers. Compliance date: <ul style="list-style-type: none"> Old: March 15, 2021 New: No specified deadline to perform the first field exercise, other than that established by the owner or operator's exercise schedule in coordination with local response agencies.
Modified scope and documentation provisions for both field and tabletop exercises by only recommending, and not requiring, items specified for inclusion in exercises and exercise evaluation reports, while still requiring documentation of both types of exercises.	<ul style="list-style-type: none"> Modified to reduce burden on facilities and local emergency responders – many of whom in rural areas are volunteers. Compliance date for exercises specified above.

Emergency Exercise Provisions	
Retained annual notification drills	<ul style="list-style-type: none"> EPA views these drills as important to confirm that emergency contact information is accurate and up to date. <p>Compliance date:</p> <ul style="list-style-type: none"> Old: March 15, 2021 New: Perform first notification exercise by five years after date of FR publication.
The owner or operator would provide new information elements with any initial RMP or RMP resubmission made after December 2024.	

December 2023

4. Notification Drill

December 2024

Item 5. Conduct first TTX

December 2026

6. Conduct first field exercise

No due date given

8. Comply with emergency coordination

9. Comply with minor accident requirements - Already a requirement September 2018

APPENDIX 5: CONOPS OPERATIONS FORMS



There are four very important first steps to controlling the release of ammonia e.g., any loss of hazard containment.

1. Based upon the existing OSHA and EPA regulations an Operator's response to accomplish incidental control and/or emergency system control is a general duty expectation and a PSM requirement.
2. Any loss of containment of ammonia must be reported to the facility incident command team (or supervisor in charge) so that the command team can consider engaging an emergency response event.
3. If an emergency event is declared then the facility Incident Commander (or supervisor) would take charge and engage the facility emergency plan that includes making appropriate notification, evacuation, and immediate decon/medical care for victims' requirements. Additionally, the emergency plan requirements would include working with the Lead Operator to develop a plan to safely mitigate the release while working with proper PPE that would include a 14G respirator and an ammonia monitor that would protect the operator if an IDLH condition should come their way.
4. When public safety responders arrive they will expect that they can get the support that is connected with the three points previously described. The fire first responders will also most likely be "Operationally Trained" hazmat responders. The public safety incident commander will take charge of the event and will expect operator support when mitigating the release, performing rescue, and dealing with the on-site and off-site consequences of the release.

Trained and equipped operators should be expected to accomplish the four points associated with handling a loss of hazard containment.

Clipboard with Leading Questions for Discovery and Initial Response on the Front and Back of the Clipboard

- ☐ 30-Min. Plan, Master Map, and CAN Report forms.
- ☐ ICS Forms: ICS 215 a hazard assessment for the Hazard Zone (HZ), ICS 208 Safety Plan for the ammonia facility, ICS 201 Incident Action Plan (sample on the back of the 30 Min. Plan).
- ☐ Other details e.g., pictures and diagrams associated with the HZ can be placed in a waterproof packet or document box located at the entry point (Side A) of the HZ.

Facility IC or Officer-In-Charge: Assumes command and will engage the Discovery command team. The IC has delegation powers to assign command team positions as needed and as available (to include off-site technical support). The Discovery stage command team functions that need to be achieved are described below. The IC will be responsible for the overall coordination and safety of the command team until resources arrive that can be delegated for the critical requirements associated with the incident.

- ☐ Assuming Command Checklist
- ☐ First Assignments list
- ☐ Incident Command Chart – Assignments and Situation Status
- ☐ Leading Questions for Sustained Response and Termination/Recovery

Notification Unit Leader – Alerts the remaining command team and begins emergency notifications (based upon the IC announcement of the “Level of Response”), incident documentation, and the Notification Unit team.

The Notification Unit Leader will have copies of all Command Team forms

- ☐ Notification Procedure
- ☐ Leading Questions
- ☐ Situation Status Report Form

Lead Responder – Utilizes the Hazard Zone Emergency System Control Packet if available. The Lead Responder communicates his/her response status to the Hazard Zone (HZ) emergency to perform reconnaissance, life safety measures for those in the hot zone and Isolation Zone to include immediate availability to emergency system control to reduce the impact of the emergency event for those entrapped.

- ☐ HZ floor plan, exit ways, location of system components and controls.
- ☐ Emergency System Control Plan for managing an ammonia release while operating outside of the IDLH (Immediately Dangerous to Life and Health – 300 ppm)
- ☐ ICS 201 Incident Action Plan – response objectives, tasks, and Safety Plan
- ☐ ICS 215a Hazard Assessment form that describes the highest anticipated fire, chemical, and/or mechanical risks and threats – Fillable PDF that is easy to adjust for the HZ.
- ☐ ICS 208 Safety Plan – Fillable PDF that is easy to adjust for the HZ.

Evacuation Group Supervisor engages the Access Control Officer, evacuation Sweepers to engage evacuation and/or shelter-in-place orders and addresses the high risk evacuation challenges (movement of people from the Rally Point to safer refuge locations).

- ☐ Evacuation Checklist
- ☐ Access Control Checklist
- ☐ Medical Support Plan
- ☐ Facility Access Control Officer: appointed by the Evacuation Group Supervisor will use a red-flag alert (crossed arms above the head) to direct incoming responders to access point and then to the command post. Optional – provide a clipboard with a Master Map and a blank CAN Report form to be used for the first size up discussion with the facility IC.

APPENDIX 6 CERTIFICATIONS AND QUALIFICATIONS

Command and Technician Team Certifications

1910.120 (q) for HAZWOPER chemical response requirements.

NFPA 470 Hazardous Materials/Weapons of Mass Destruction (WMD) Standard for Responders

Recommended Command Team Training:

FEMA FREE ICS On-line Courses - <https://training.fema.gov/nims/>

- [ICS-100: Introduction to the Incident Command System](#)
- [ICS-200: ICS for Single Resources and Initial Action Incidents](#)

Recommended National Incident Management System courses

- [IS-700: National Incident Management System, An Introduction](#)
- IS – 800-D <https://training.fema.gov/is/courseoverview.aspx?code=IS-800.d&lang=en>

Optional FEMA Emergency Management Institute Training <https://training.fema.gov/is/>

[ICS-300: Intermediate ICS for Expanding Incidents; ICS-400: Advanced ICS for Command and General Staff; IS-703: NIMS Resource Management; IS-706: NIMS Intrastate Mutual Aid – An Introduction; IS-800: National Response Framework, An Introduction; G-191: Incident Command System/ Emergency Operations Center Interface; G-402 Incident Command System \(ICS\) Overview for Executives/Senior Officials; E/L/G-2300 Intermediate Emergency Operations Center Functions](#)

Operations Team Training

CFR 1910.120 and NFPA 472

Task Book Training Plans

Assigned Position Training (Command and Operations)

Certifications

Specialty Training

Public Safety Certifications and Qualifications

Transition of Command between the facility IC and the public safety IC. The options will include:

- ☐ Unified Command applies to those command level responders that have jurisdictional responsibilities such as law, neighboring fire, Coast Guard, Air District, Fish & Game, etc.
- ☐ Facility liaison to the public safety command, providing critical information about system operations, life safety concerns, hazard analysis of the Hazard Zone (danger area), and responder support such as decon showers, fire protection support, surveillance, and monitoring information.
- ☐ Technical Specialist A - Advanced knowledge about facilities, operations, and emergency response support to include entering the danger area for incidental control of a problem).

- ☐ Specialist B - Trained and equipped to respond to incidents involving chemicals and can provide technical advice and assistance within the Hot Zone danger area.
- ☐ Specialist C – Trained to advise and offer informational assistance but cannot enter the danger area.
- ☐ **ASTI SAMPLE Certificate** that can be adapted for TTX/CONOPS training the appropriate instructional time frame used to address the topics listed on the certificate.

Ammonia Safety & Training Institute

CERTIFICATE OF ATTENDANCE

Awarded to

Name

The Attendee participated in a six-hour ammonia emergency response tabletop exercise hosted by ASTI, Region 9 EPA, and the Sacramento Valley Walnut Growers. The training featured a Concept of Operations (CONOPS) designed to aid in facility and community planning, preparedness, and response to a hazardous substance release incident.

The primary purpose of the training was to develop capacity and competency at the local level for response operations

The secondary purpose of the training was to provide a regulatory demonstration model for upcoming RMP changes.

The CONOPS training included information about the FEMA hosted ChemResponder web-ap network used by public safety to track critical incident information such as plume models and situation status live-action uploads.

Emergency Response Goal: Prevent them all or stop them small!



Date

Instructor

Ammonia Safety and Training Institute | P.O. Box 1578 | Watsonville, CA 95077

APPENDIX 7 AHJ CONOPS MEETINGS AGENDA

The lead organization for the AHJ CONOPS (or the Leader of the LEPC) or the Lead hazmat response organization who is requesting an Ammonia CONOPS meeting can use the following as a guidance document for setting up a CONOPS development team.

This CONOPS document offers details that can be used for the introductory message to those invited to the Initial CONOPS discussion (or local LEPC meeting).

Date of the Initiation of CONOPS Discussion: _____

Agenda Index# ____ Agenda Master File Location: _____

Meeting Date: _____ Time: _____ to _____ Location: _____,

Attendance list

LEPC and/or Local AHJ leader convening the first meeting:

Names: _____, Email _____, Phone: _____

Local Emergency Manager:

Names: _____, Email _____, Phone: _____

Fire/Hazmat Organization: Names: _____, Email _____, Phone: _____

State and Regional Emergency Manager

Attendance requested from Tripod leaders who have hazardous materials response jurisdictional authority (City, County, District or Regional) within the boundaries of the proposed CONOPS e.g., law, medical response and hospitals, public health, public works, fish & game, Coast Guard, regional EPA and state level response leaders.

Each agency requested to attend would provide the following

Name: _____, Email _____, Phone: _____

Website: _____ Jurisdictional Mission and Boundary: _____

Provide A Meeting Agenda of Topics to be covered along with an explanation of the intent of the meeting to build an Ammonia Response CONOPS during the scheduled meeting.

Agenda Meeting Topics timeline for discussion, and set the Next Meeting Date/Time

Attachments The Authorities Having Jurisdiction might adapt the Ammonia Response CONOPS portions that most apply to the meeting.