THE FIRST 30 MINUTES

- Chaotic Curve
- EAP - ERP
- Sonny B
- ASTI Decon
- CAN Report

- Blue Playbook PDF
- Green Playbook PDF
- CAN PDF
- Haz Quick Guide PDF
- ICS Org Chart PDF

Industry

Pre-emergency

Discovery
- LANCE

Initial Response
- SIMPLE - SOP
- First Responder PPE

Public Safety
- CAN Report
- Checklist - Playbook

Goverment

Emergency
- Action Plan
- Escape
- Rescue
- Critical Ops

Responder Safety
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A NEW DAY FOR A BETTER WAY

The Challenge

The working relationship between Stakeholder-Responders (industry, public safety, and government) needs to be re-focused and improved by creating best management practices (BMP) for engaging an Emergency Action Plan (EAP). Furthermore, the transition from EAP Emergency Response Plan (ERP) must be seamlessly in sync with the demands of all three Stakeholder-Responder groups. The Discovery and Initial Response phases of emergency response should be completed by first responders within the first 30 minutes.

History of Response Protocol in the U.S.

In 1991 the federally adopted "One Plan" provided an exceptionally well focused planning strategy centered on the four phases of emergency response: Discovery, Initial Response, Sustained Response, and Termination of the emergency.

The framers of the One Plan knew that there would be gaps and delays in operational engagement of the emergency plan, especially with first responders. They recommended Plant-specific protocols and quick guide checklists for emergency response team members.

The framers watched as their projections materialized. Corporate and public safety emergency planners adopted the One Plan in a "cookie-cutter" fashion. In some cases, the local Plant name wasn't even changed as the One Plan was adopted from one community to another.

Over time code development officials and employer emergency planners neatly boxed the One Plan response requirements into two categories;

1) Discovery and Initial Response for the EAP responders, who respond defensively;

2) Trained and equipped ERP responders are to transition out of Initial Response with an Incident Action Plan and Safety Plan to engage specified response objectives and tasks while working in the danger area (Sustained Response). The Technician trained IC will declare a Termination of the emergency event when the risks and threats have been properly mitigated.

The Value of Operational Readiness

General Dwight D. Eisenhower said (paraphrased), "It's not the plan but the planning process that leads to successful accomplishment of the mission".

It all starts with the local responder's ability to engage an Incident Action Plan and safety plan. There should be minimal delay when operationally engaging from one phase of response to the other. The transition has to be well-rehearsed between ALL responders (especially local public and industrial first-responders). If the emergency event becomes a major emergency, the response resources can quickly expand by request of the Public Safety IC who has the power to initiate local area mutual aid and/or follow the State and National Framework to request state and federal resources.

Response Gaps

Generally speaking, there are significant operational gaps in many local EAP's for the following requirements:

> ***Procedures to be followed by employees who remain to operate critical plant operations before they evacuate; e.g. emergency shutdown***
>
> ***Rescue and medical duties for those employees who are to perform them;***
>
> ***Before implementing the emergency action plan, the employer shall designate and train a sufficient number of persons to assist in the safe and orderly emergency evacuation of employees.***

Local, state, and federal Stakeholder-Response planners can get much more out of the first 30 minutes to stop emergency events when they are small. First responders should step-up their readiness to engage live safety and emergency shutdown challenges. Pre-approved Plant and public safety responder SOPs should follow the best management practices that are set up for safe yet aggressive action in the first 30 minutes (for low level vapor exposure – under 5,000 ppm of ammonia).

The Solution: A Better Way

EMERGENCY ACTION PLAN: The life safety challenges are greatest during the Discovery and Initial Response phases of emergency response. At the same time the opportunities to contain and control a major event, such as a fire or chemical

release, is more achievable if the Plant responders are prepared to engage emergency shutdown procedures during the first 30 minutes.

Veteran command team leaders will tell you that the right setup during the initial response directly impacts the success of the sustained response needed to control a major emergency event. Do it right and you will stop the problem when it is small, do it wrong and chaos will prevail and costly mistakes can easily domino into costly consequences.

The BMP will maximize the first responder powers to engage an action plan. Pre-established SOP logic with regard to hazard, risk, and threat assessment will lead to clearly defined command team operations. Operationally engaging rapid entry rescue, incidental control, and emergency shutdown will the source of hands-on training for the Incident Commander's response team. Public safety first responders will work within the scope of a teaming agreement that pre-defines the level of support that they will provide for the Plant response team.

The BMP will be scrutinized by Stakeholder-Responders from local, state, and federal levels as the ASTI Ammonia Safety Days are performed throughout the U.S., Canada, and Australia during 2016.

Federal and regional support for the review and consideration of BMP changes was initiated by Kathryn Lawrence, Chief of Prevention and Preparedness for Region #9 EPA. In September of 2015 Kathryn called a meeting between EPA, OSHA, and selected local and state emergency planners to discuss how to address the Presidential E.O. 13650 during 2016. The dialog between the Stakeholder-Responder team led to the idea of creating BMP recommendations for engaging Discovery and Initial Response phases of the One Plan for ammonia emergencies.

It is our goal to perform Safety Day training sessions that feature the BMP throughout Region #9 and across the U.S in 2016. By the end of 2016 the BMP recommendations will become a Draft RAGAGEP (Recommended and Generally Accepted Good Engineering Practice) to be considered for adoption by IIAR.

There is no doubt that the relations between industry, public safety, and government will improve because of the Safety Day focus provided in 2016 to those who attend the ASTI Ammonia Safety Days.

What Must Change?

The most pressing change is the need for collective agreement to speed up the actions of first responders to engage critical initial response challenges such as:

- ***Command Team readiness - The use of the Incident Command System is required for all emergency events:*** *Stakeholder-Responders must get over the assumption that first-responders are not capable of achieving a more aggressive EAP response. Improved command team response includes* ***four critical command positions****: Incident Commander (leads the command and control), Lead Responder (engages actions within the Isolation Zone such as rescue and emergency shutdown), Evacuation Group Supervisor (coordinates safe movement and appropriate refuge and secures access to/from the Isolation Zone), and the Notification Unit Leader (makes critical calls, documents high-point emergency events, and helps to coordinate communications to and from the Incident Commander).*
- ***Rescue live victims*** *exposed to ammonia vapor (under 5,000 ppm of vapor) and to properly perform decontamination, medical care, and transport to the appropriate critical medical care facility.*
- ***Stop emergency events from becoming major events*** *by supporting the Plant response team when initiating emergency shutdown operations.*
- ***Adopt personal protective equipment policy that relates to the level of protection need for addressing the risks and threats*** *of the emergency event. Trained Plant and public safety first responders who ware overalls or firefighter bunker gear, a Nomex hood, and self-contained-breathing apparatus should be allowed to follow an SOP for entry to perform rapid entry rescue and emergency shutdown 5,000 to 10,000 ppm of ammonia vapor.*

The industry, public safety, and governmental emergency response stakeholders must coordinate and apply the BMP consistently. This will require a higher level of understanding and leadership support that is driven by a jointly accepted moral compass to do the right thing for ALL involved in an emergency event (employees, responders, community and the environment).

- ***The one-size-fits-all approach*** *used for emergency planning and safety oversite hasn't changed much over the last 20 to 30 years, except to become more restrictive and more aggressively enforced.*
- ***The impact of the current regulatory and corporate limits on plant and public safety first responder operational engagement*** *is to avoid engagement because of a lack of pre-emergency readiness and fear of liability and negative regulator and corporate scrutiny for acting in a way that would require taking a calculated risk (based on knowledge and experience) that would save a lot yet not completely fit within the regulatory scheme used to judge their response.*

  For example, *we know (through industrial hygiene, medical evaluation, and professional experience) that the threats of a room containing 5,000 ppm of ammonia vapor is potentially survivable for an unprotected trapped victim. Yet the first responders are very likely not going to enter to perform rescue and/or engage emergency shutdown procedures because of fear of responder injury, even when they are protected with an SCBA and total skin coverage*

  There are many within the emergency response-stakeholder group who have not received the information in convincing fashion to keep them from acting negatively to responder engagement into IDLH environments without use of a fully trained HAZWOPER Level A entry team. First responders who could save a life or significantly reduce the impact of a developing emergency event stand-by waiting for at least an hour for a trained hazmat entry team to engage *action to rescue, contain, and/or control the emergency even. Worse yet the responders may wait out the emergency event until it does its damage to people, environment, and property before finally dying out because of a lack of energy to do potentially catastrophic devastation.*
- ***First responders who choose to engage the more aggressive BMP recommendations for engaging EAP response must adopt ALL of the guidance to assure safe and effective response.*** *For example, first responder team should not be allowed to simply throw on a SCBA and do what they want. They must adopt to entire process, from engaging a command team to developing teaming agreements with public safety responders.*

Key points to the Game Plan

The life safety issues must be taken care of immediately:

- ***Set the isolation zone*** *where the level of exposure is considered "immediately dangerous to life and health"*
- ***Move people located in the Isolation Zone to safe refuge*** *(a rally point, assembly area, or shelter in place location)*
- ***Those trapped in a dangerous "hot zone" location must be rescued*** *by trained first responders that are dressed in an appropriate personal protective equipment ensemble.*
- ***People located outside of the Isolation Zone must be accounted for and kept safely assembled*** *upwind of the Isolation Zone.*
- ***Access to the Plant must be controlled*** *so as to prevent entry into the Protective Action Zone accept for incoming emergency responders, who will be directed to the incident command post.*

The power of an emergency event is fueled by the volume, pressure, and interactive forces that generate instability and extreme threat *such as an aerosol chemical cloud, flash fire, or explosion.*

- ***The speed of the interactive forces*** *may develop slowly from an incipient fire or chemical leak, or develop rapidly because of the impact of the action causing the problem, e.g. severed liquid supply line, or a flash fire from highly flammable gases, or explosion from unstable mixture of chemicals.*
- ***The Industrial Plant must identify the various hazard zones*** *that exist within their operations and* ***create emergency shutdown procedures*** *that are defined as standards of operation and presented for emergency responders in easy to utilize playbooks, checklist, and/or quick guides.*
- ***The emergency responders must be equipped and trained to engage emergency shutdown as a part of the initial response****. The level of personal protective clothing that is appropriate for working within potentially dangerous environments and in all cases include total skin coverage and respiratory/eye protection.*

The Plant Incident Commander and Lead Responder must be capable of reading hazards, risks and threats (HRTs) so as to determine the correct level of personal protective equipment and staffing back up needed to achieve life safety and emergency shutdown operations.

- ***The Plant IC and Lead Responder must immediately assess HRTs*** *to determine the possibilities for* ***rapid entry rescue and emergency shutdown*** *SOP engagement.*
- ***The Plant IC must delegate key roles to a command team*** *in order to stay focused on managing the overall incident. The initial response team must include command team positions assigned to* ***Lead Response*** *(operations within the Isolation Zone),* ***Evacuation*** *(safe movement, assembly, and access controls), and* ***Notification*** *(documentation and communications).*
- ***An SOG (standard operating guideline) must be developed for the initial response command team to become a part of the Pre-Emergency Response Readiness****, whereby they are notified at* ***ANY time the Plant is placed in a higher than normal level of threat****, e.g. during storm event; high risk maintenance, service, or repair; and when troubleshooting problem (such as odor investigations) that could quickly escalate into an incidental or emergency event.*
- ***The Plant IC must be prepared to meet-and-greet the first-responders*** *with critical size-up information using the* ***C-A-N report*** *methodology (Conditions-Actions-Needs).*
- ***The Plant IC must assure that decontamination, medical treatment, and control zones access*** *is set-up and ready to address any forthcoming initial response challenges that may occur.*

Public safety first responders must be prepared to address the initial response challenges such as controlling the isolation zone, performing rapid entry rescue, and backing up the Plant Lead Responder as they engage emergency shutdown operations. This process all starts with the first meet-and-greet between the public safety IC and the Plant IC. The C-A-N report needs to be clear and well received by the Public Safety IC.

- ***Conditions: The Plant IC must convey the hazards and risks of the emergency event*** *in order to assure that the first-responder firefighter's personal protective clothing (fire turnouts and self-contained-breathing-apparatus) adequately addresses the threats while performing the initial response action plan objectives (rapid entry rescue and/or backup for the Plant Lead Responders doing emergency shutdown operations).*
- ***Actions: The Plant IC must assure personnel accountability for all employees, visitors, and contractors*** *by having command team feedback on the status of the head count, movement of personnel to safe refuge (Rally Point to Assembly Area), with priority concern for those missing and for those entrapped within Shelter-in-Place locations located in the Isolation Zone.*
- ***Needs: The completion of the rescue and emergency shut-down requirements may require support from the public safety responders to complete.*** *The needs for back-up support include: ventilation equipment, fire control hose lines, decontamination and medical care, and backup for the Lead Responder team as they complete their SOP for emergency shutdown of the hazard zone.*