



Engine Company 1 (Ec1)

360° VR Training Prototype

Disclaimer

The development of Engine Company 1 (Ec1) was supported by the National Institute Of Environmental Health Sciences of the National Institutes of Health under Award Number R43ES034218. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.

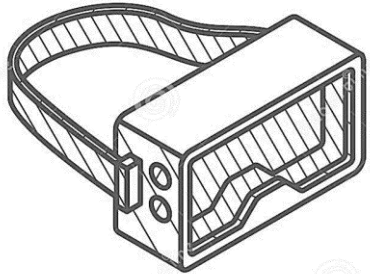
Objectives

At the end of this unit, you will:

- Learn how this training is organized and delivered using eLearning and VR
- Perform the steps to properly test, watch and respond to a 360° viewable incident using your phone placed inside your VR headset
- Conduct your own ANALYSIS of the incident you respond to along with your Ec1 team
- Compare your own ANALYSIS and PLAN to the IAFF sanctioned PLAN provided

Welcome to the Engine Company 1 Training Program

Virtual reality component



Instructional screens



Quizzes



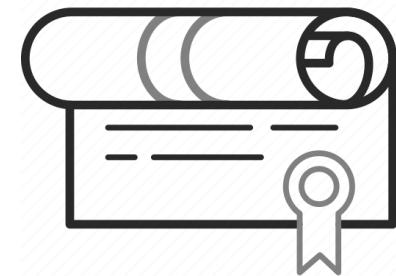
Worksheet



Test



Certificate



Get the Headjack Link Virtual Player App on to your Phone

Instructions:

1. Download the “**Headjack Link**” app from the App Store (on IOS) or Play Store (on Android)
2. Launch the App
3. Enter the code: **979177** when prompted



How a Video Looks Like on your Phone



Instructions to playback a video in the “Headjack Link” App:

1. Launch the App.
2. If the App asks for the code again, enter: **979177** when prompted.
3. Select the video you want to view from the menu.
4. Click the “**Play**” button.
5. Click “**Stream**” or “**Download**” (We recommend selecting “**Download**” for better playback performance).
6. Click “**Play**” to playback the video.
7. Choose “**Cardboard**” if you are using The Google Cardboard Viewer or a compatible one. Select “**Standard**” if you want to playback the video without a VR device.
8. If you selected “**Cardboard**” proceed to place your device in the cardboard viewer.
9. When you are done viewing the video in the Cardboard viewer, click the “**Home**” button.

Proper Insertion of Phone into VR Headset



Important: Ignore the instructions in the video regarding the scanning of the QR code.

Video Credits: CNET

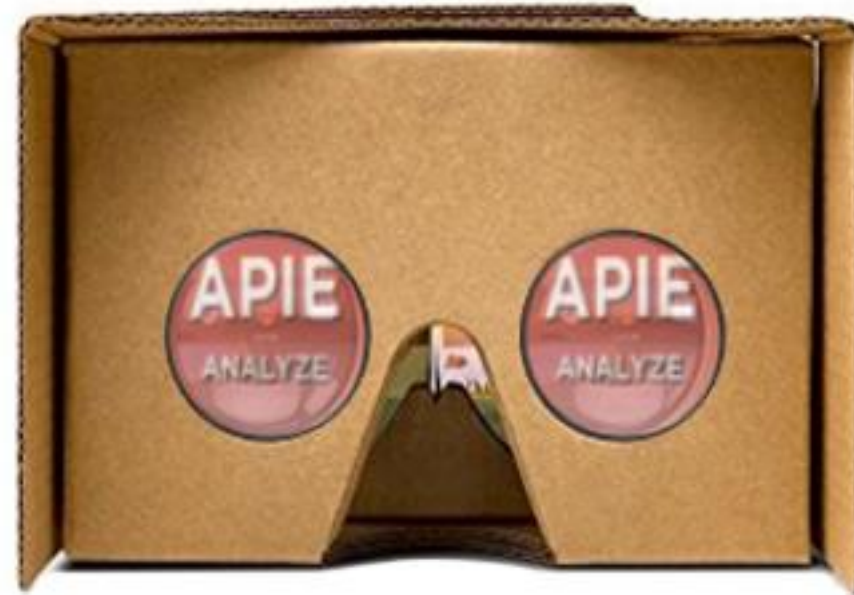
Headset Test with Video A Playing

STEP
1



Play video A on your phone outside of headset
Check the sound level

STEP
2



With video playing, place phone into headset
and adjust for optimal viewing. Adjust head strap.

Look around
Do you see all
the words that
comprise
APIE?

Incident Response Considerations

As you watch the 360° VR video, think about what you see at the scene:

- Injuries caused by some type of chemical exposure?
- Products identified (placards, labels, shipping papers)?
- Response resource references (ERG)?
- Decontamination needed?

Disclaimer:

For the purposes of this training in this VR video fire trucks, EMT ambulance and the police car were positioned (for videography staging purposes only) closer to the scene of the incident than the correct HazMat established protocol.



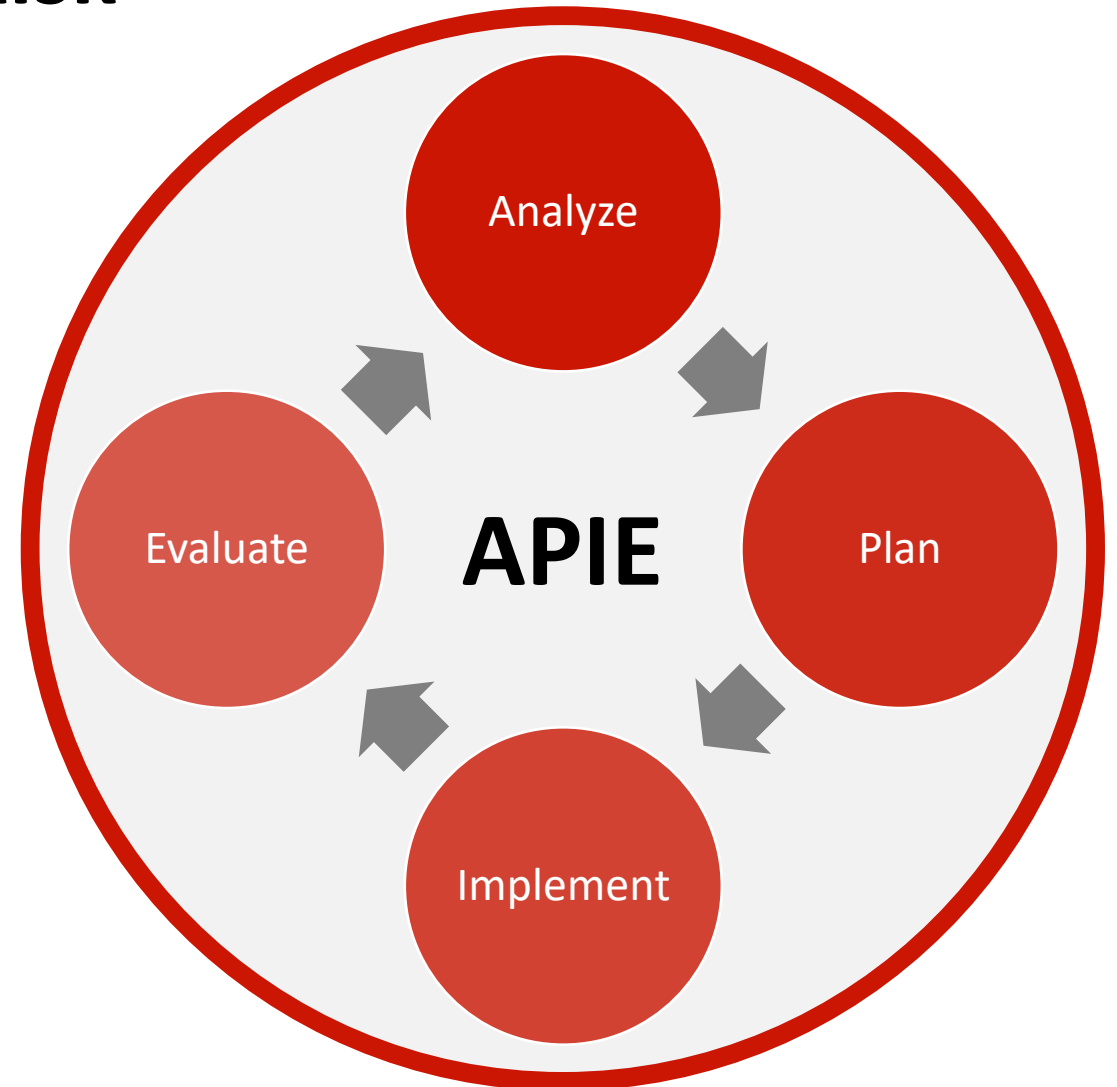
Objectives

In this unit, you will:

- Apply the steps to properly ANALYZE, PLAN, IMPLEMENT and EVALUATE incidents taught in this eLearning unit.
- Respond to an incident along with your Ec1 team using 360° VR and apply the A.P.I.E. steps you learned.
- Formulate your Plan and compare it to the IAFF Sanctioned Plan.

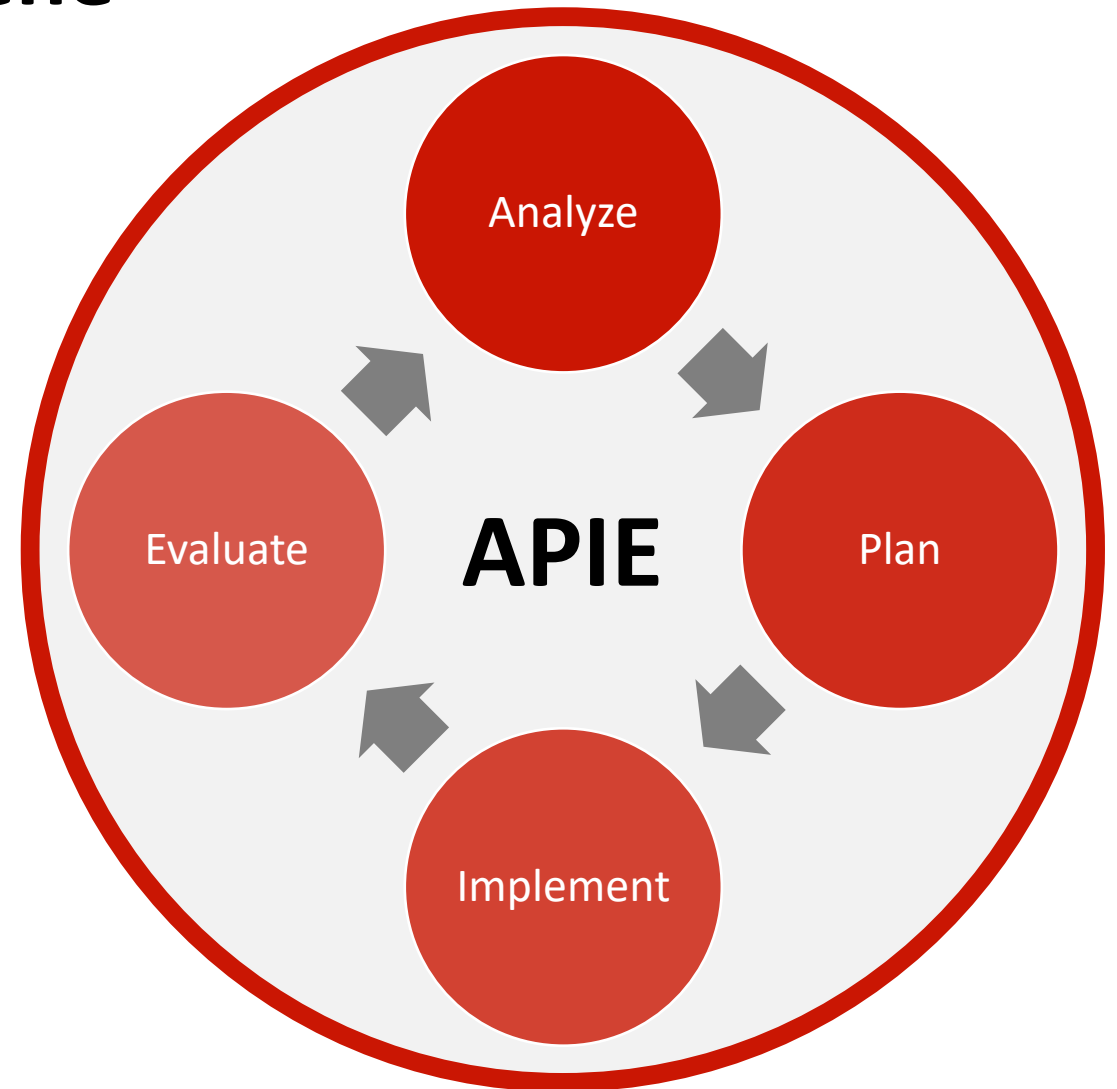
Four-Step Process to Reduce Risk

- **STEP 1.** Analyze the Problem
- **STEP 2.** Plan the Response
- **STEP 3.** Implement the Plan
- **STEP 4.** Evaluate the Process



Applying APIE at a HazMat Scene

- Quick decision making
- Problem-solving
- Safe and effective response



Analyze (1 of 6)

- Acquire information about the incident from dispatch.
- Initiate Incident Command and communicate a brief size-up.
- Survey the scene and determine if hazardous materials are present.
 - Hazardous materials – released?
- Observe visual clues – placards and labels.
- Acquire information from eyewitnesses.



Analyze (2 of 6)

- Collect hazard and response information using reliable sources:
 - ERG
 - MSDS
 - NIOSH Pocket Guide
 - MPA
 - Other?
- Identify type of container(s).
- Determine stresses and damage.



Analyze (3 of 6)

- Final Critical Step
 - Estimate the outcomes of the hazardous materials exposure.
 - Harm to the population at large.
 - Harm to emergency response personnel.



PLAN (4 of 6)

- Last Step
 - Plan initial response.
 - Within the capabilities of available personnel.
 - Utilizing the right PPE.
 - Determine resources.



PLAN (5 of 6)

- Determine necessary personnel, equipment, and safety measures.
- Access required support from local or state authorities.
- Determine PPE.
 - Correct PPE for the response.
 - Decontamination of just victims or everyone.



PLAN (6 of 6)

- Apply your Analysis weighing all these factors in formulating an action Plan that is:
 - Effective
 - Safe



Implement



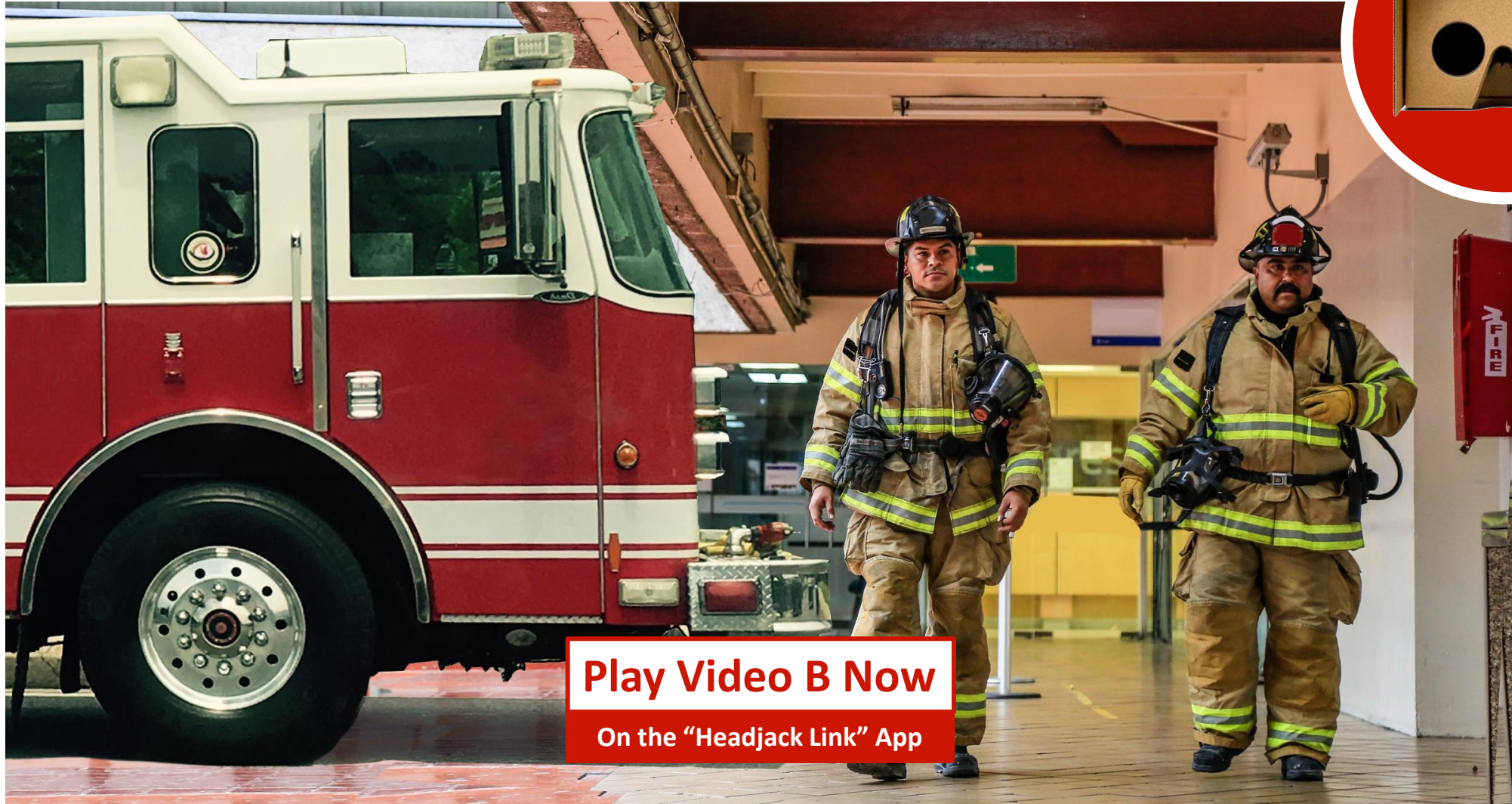
Implement







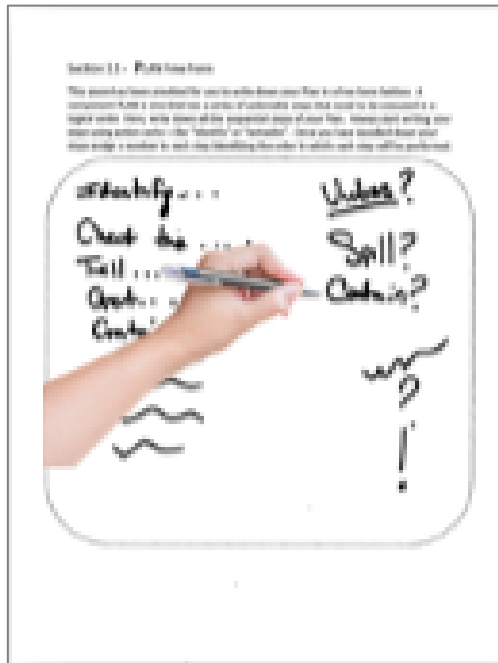
Incident Response 1 - VR



Play Video B Now

On the "Headjack Link" App

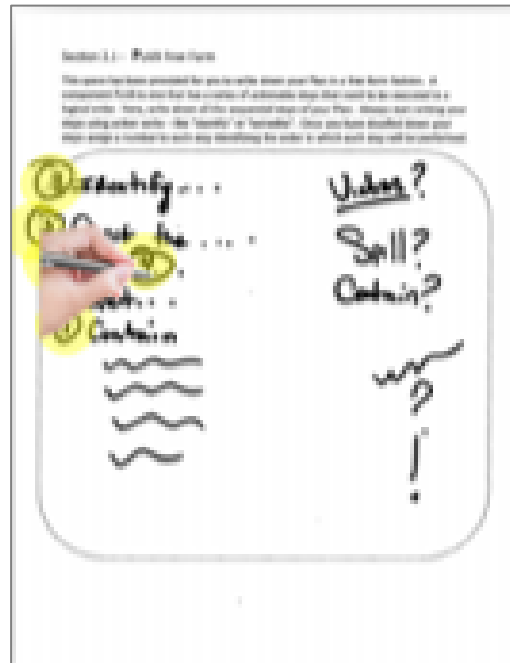
My Ec1 Worksheet – Complete Plan Sections 2.1 & 2.2



STEP

1

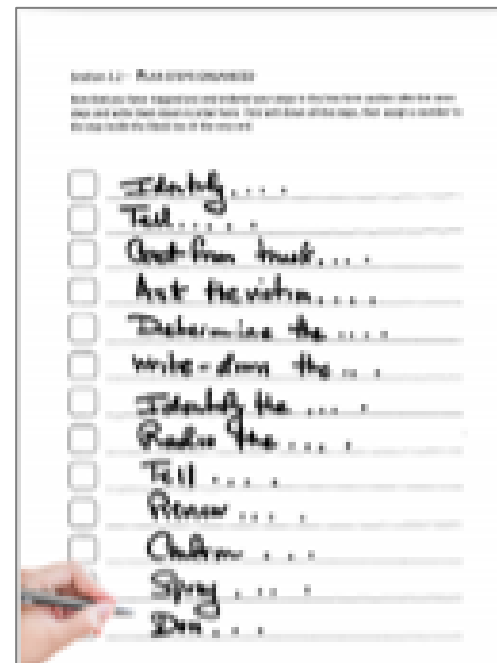
Write steps here
in free-form



STEP

2

Assign a # to
each step



STEP

3

Order Steps here



STEP

4

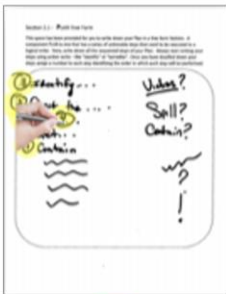
Assign a step # ONLY after
all steps have been entered

Watch Incident Again Before Completing Your Plan?



STEP
1

Write steps here
in free-form



STEP
2

Assign a # to
each step



STEP
3

Order Steps here



STEP
4

Assign a step # ONLY after
all steps have been entered



We may need to link instead of embedding the 360 video here. (Needs to be tested in Articulate Storyline)
Republish the YouTube video to our MetaMedia Channel.

EC1 Team's Plan Executed



Play Video C Now

On the "Headjack Link" App

Ec1 Sanctioned Plan – My Plan Comparison

SECTION 2.2 - PLAN (2016) (2016/2017)

Plan (EAT SANCTIONED)

Plan Objectives

1. Identify communication protocols with other local and state resources required if needed.
2. Establish control zones (Hot, Warm, Cold).
3. Design and execute security plan.
4. Develop plan to address when management from activation to transfer to EMT.
5. Develop plan to address spill removal and protect nearby water source.

Plan Steps (In Sequence) (Leading to Implementation)

1. Communication and Reporting
 - a. No radio issued (not required).
 - b. Do not need to involve local or state resources.
2. Establish Control Zones (Hot, Warm, Cold)
 - a. Chemical in Hot (zone confined as follows)
 - b. Warm Zone is between 100-500 ft away from the spill (where decontamination zone is located)
 - c. Cold Zone is: Greater than 500 ft away (keeping hot, warm, radio)
 - d. PPE required to mitigate spill (e.g. Turnout gear with SCB)
 - e. Chemical exposures not to all other persons including EMT's, police and bystanders in "critical" and "imposed" jurisdiction of local law enforcement.
3. Security Plan
 - a. Law/Enforcement or scene set-up.
4. Monitor Plan in Stage and Sequence
 - a. Identify chemical and record chemical/physical properties

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Ec1 Plan

SECTION 2.2 - PLAN (2016) (2016/2017)

Now that you have prepared and outlined your steps in the Plan form, outline the same steps and write them down in order here. Put a number in the steps to indicate the order and.

- 1 Identify....
- 2 Tell....
- 3 Get from truck....
- 4 Ask the victim....
- 5 Determine the....
- 6 Write-down the...
- 7 Identify the....
- 8 Radio the....
- 9 Tell....
- 10 Renew....
- 11 Confirm....
- 12 Spray....
- 13 Don....

My Plan

Plan Implementation Comparison and Evaluation

How does My Plan compare?

What parts of My Plan differed?

What key things did I miss upon reflection? How severely would my decisions have impacted my response to the victims, police, EMTs, bystanders, and my Ec1 team?

What measures did I put in place that were also executed by the Ec1 team?

Bottom line – if I could respond again, what did I learn from the experience, and what would I do differently?



Analysis Interactive Quiz

Test your Understanding

Analysis: Drag and drop the steps to reorder them in the correct sequence.



Develop a plan to address victim management from extrication to transfer to EMS.

Establish control zones (hot, warm, cold).

Identify communication protocols with other local and state resources required if needed.

Assign and execute a security plan.

Develop a plan to address spilled chemical(s) and protect nearby water sources.

True or False: Upon arriving at the scene of a HAZMAT spill, your first duty as a first responder is to immediately extricate all victims.



TRUE

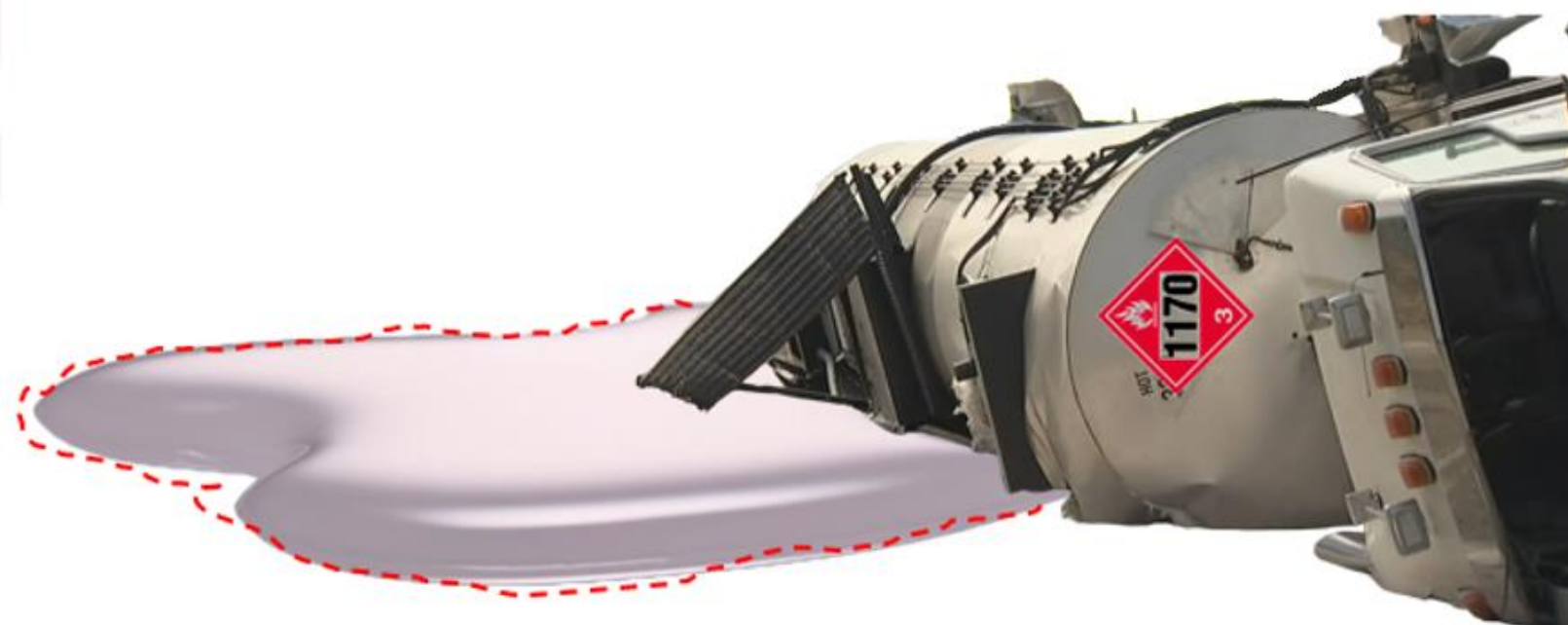
FALSE

Which Hot Zone should be established for the chemical spill in this incident?
Drag and drop the correct Hot Zone into the chemical spill that is pooling.

100' – 800'

72' – 103'

150' – 300'

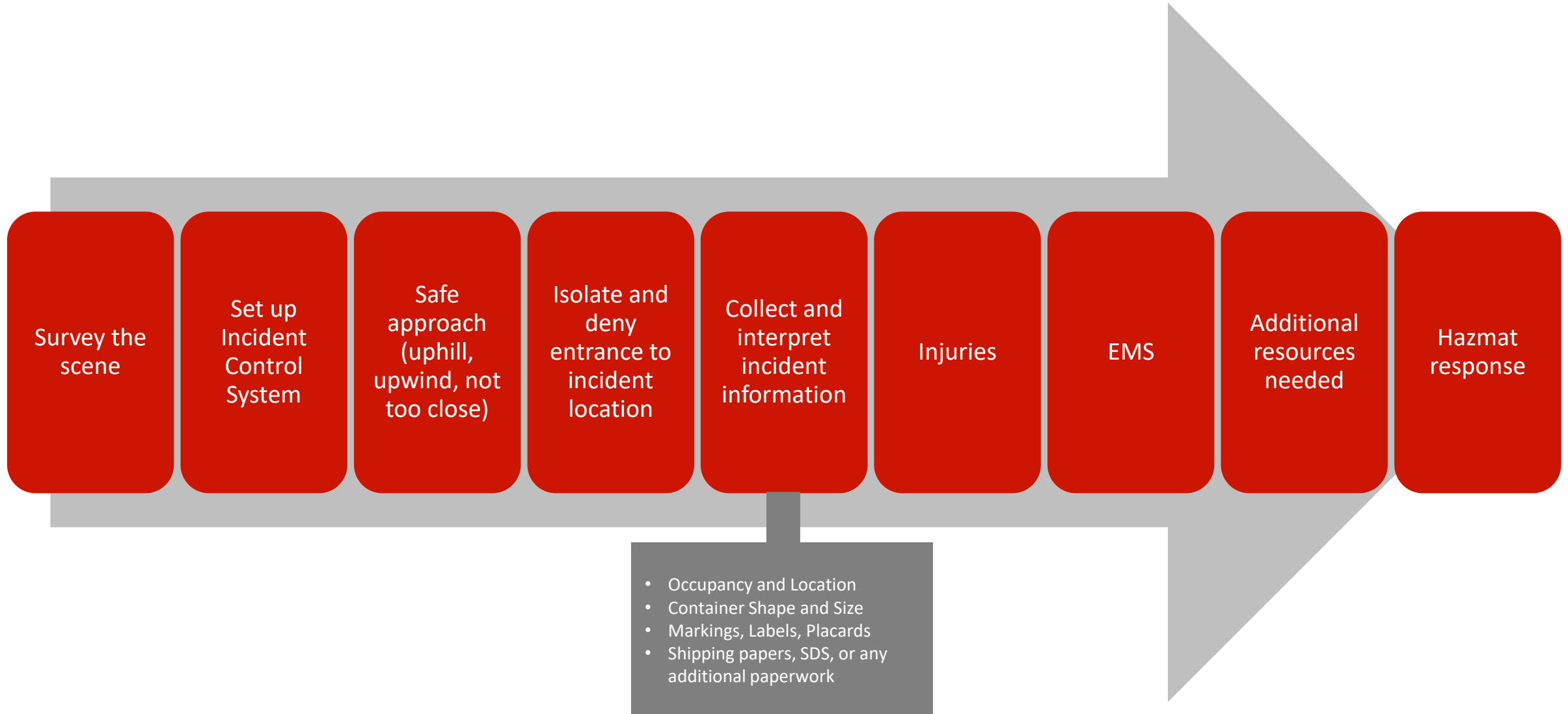




Identify Container Markings



Consider the Ec1 Team's Actions



Formulate your Best Plan of Action



How to best protect your health and the safety of others



Recognize potentially hazardous and life-threatening conditions



Prevent or minimize the exposure to hazardous materials



Defensively control the incident

VR Scenario 2: Railcar Incident – Based on Real Word Occurrence

Freight train ploughs through crane truck at railroad crossing

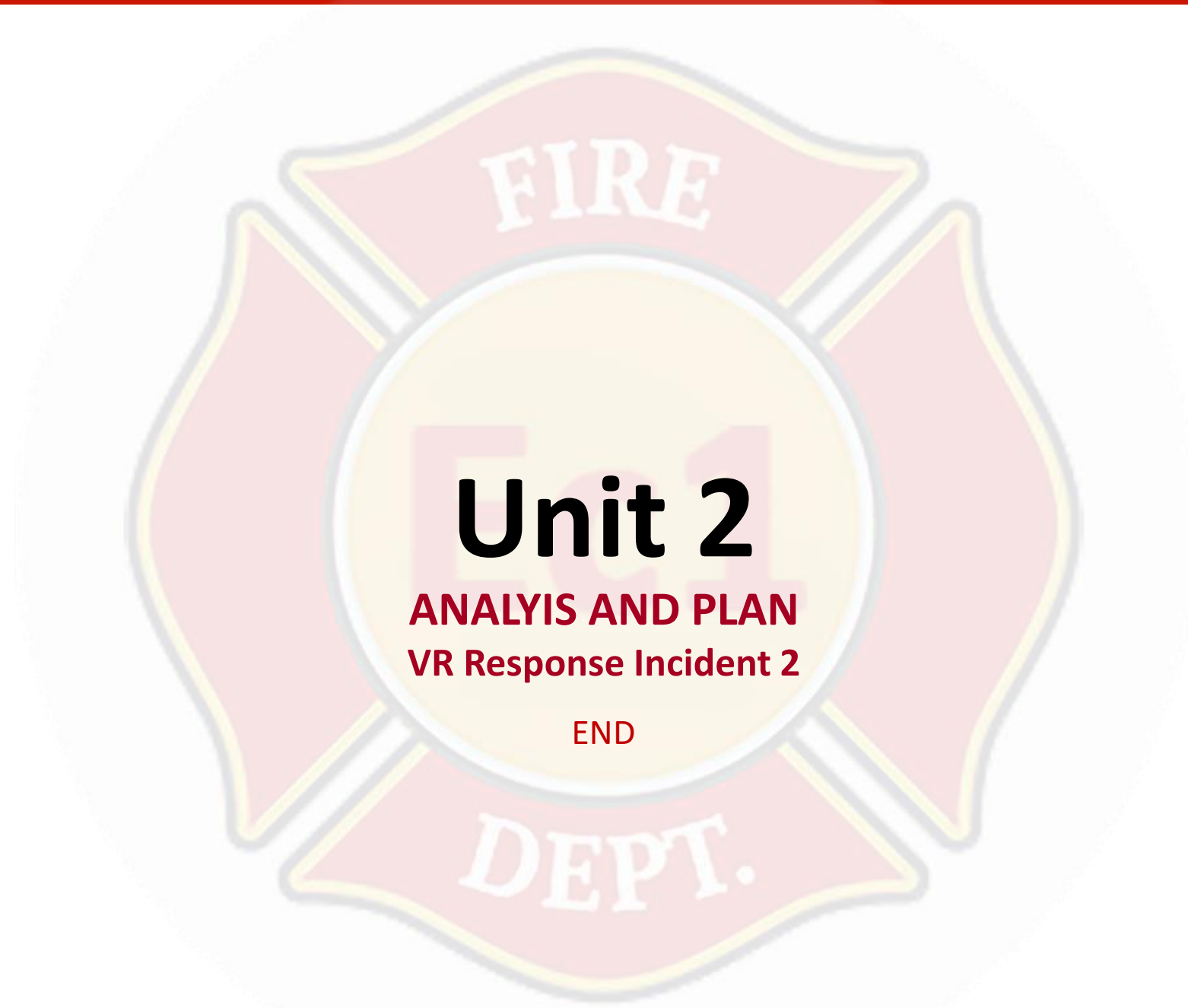


Reviewer Note:

This 360° VR video has not been developed. It serves as a placeholder for the production of another incident pending NIESH Phase 2 funding.

[Play Video D Now](#)

On the "Headjack Link" App



Unit 2

ANALYSIS AND PLAN
VR Response Incident 2

END



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Thank you for your participation.