

# AIRAH PRESENTATION EMERGENCY PLANNING

Introduction into emergency planning for ammonia refrigeration incidents



## DEFINITIONS

### Emergency

Sudden unforeseen happening which requires actions to correct or protect lives or property and environment  
may include fire/electrical failure/security/natural event

### Emergency Planning

Preparing to manage emergency and aims to prepare for/mitigate the effects of emergency

### Emergency Plan

Written document detailing how a site/facility and its occupants deal or manage emergency events that may possibly occur

Describes your emergency management system

Do you have an emergency plan?

Do you know what is in it and your responsibilities?

When did you last practice and test your plan?

As a contractor -have you asked to see it ? what is your role? Are you prepared and contactable ?





## CONTEXT

More than 140 large dangerous goods locations using ammonia as a refrigerant in Queensland  
 Ammonia releases have occurred at significant proportion of these sites in last two years

Most common causes are equipment failure (70%) and human error (26%) –US data  
 is there a training and design/maintenance issue?

Incidents involving ammonia releases are challenging to manage safely  
 challenges include  
 familiarity/design  
 material/quantity/situation/location/adjacent community and environment  
 Conflicting needs have to be managed  
 save product/facility operation/neighbouring facility operation  
 responder and community safety  
 environment

what needs do you think are the priority?

what emergency types and scale should you be able to manage?



## WHAT WILL QFRS DO

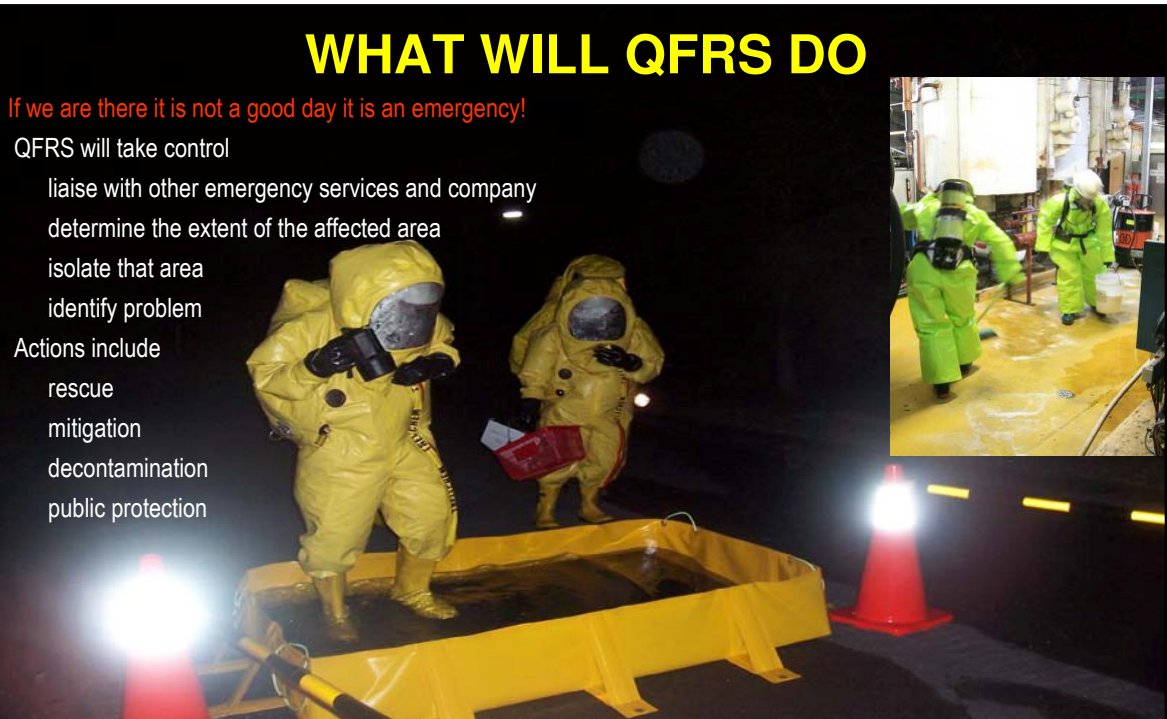
If we are there it is not a good day it is an emergency!

QFRS will take control

- liaise with other emergency services and company
- determine the extent of the affected area
- isolate that area
- identify problem

Actions include

- rescue
- mitigation
- decontamination
- public protection





## EXAMPLE

### Example

- built on uneven floor
- were defrosting system and stopped
- used spacers between plates when started again
- pin hole leak
- emergency exists padlocked!!

Several hours to resolve  
 concentration inside varied ca. 4000 ppm  
 lots of gas suits



## EMERGENCY PLANNING

- Aim and objectives;
- Parameters including legal basis;
- Consultation;
- Types of emergencies including common industry incident data and historical data of site;
- Documentation of the process of hazard identification and analysis;
- Gap analysis;
- Description of the area to be covered by the emergency plan with respect to people, locations, environment, boundaries, systems, plant and equipment;
- Description of the emergency management system;
- Writing the plan using an established format and listing areas to be addressed and schematics/maps required;
- Description as to how the emergency plan is activated and terminated;
- Describe how the emergency plan is managed including documentation, record keeping and exercises;
- Documented training and exercises;
- Checklist; and
- Review.

Have you done this? Is it documented?  
 Where do you get help?



## EMERGENCY PLAN

Objectives and scope;  
Contacts;  
Activation and deactivation;  
Organisational structure;  
Emergency functions;  
Roles and responsibilities of various personnel;  
Emergency response approaches and procedures;  
Protective Actions;  
Facility resources or resource acquisition arrangements – quantity/location and contacts;  
Community engagement/media;  
Site map; and  
Emergency assistance arrangements.

Do you have written procedures to support the plan?  
Do you practice with the emergency services?  
Have you tested you emergency assistance arrangements?



## A COUPLE OF KEY CONSIDERATIONS

Written operating procedures for  
identified emergencies  
emergency shut down  
start up  
tables of operating conditions for critical valves etc  
diagram of operating system

Training  
all persons (and replacement) with role should be trained and resourced  
practice with local emergency services

Resources  
match your plan  
available at all times – including the arrangements for resources and expertise to assist  
respiratory/skin protection  
detection  
mitigation and waste management  
expertise

Off-site consequences  
identify at risk neighbours and have their contact details



## QFRS

We have a few tricks up our sleeves

### Resources

- detection equipment (upto 5 km remotely)
- hazard prediction model releases
- personal protective equipment – chemical protective clothing/cryogenics/respiratory protection
- mitigation and neutralisation equipment

### Knowledge

- Emergency management
- rescue/fire suppression strategies
- Mitigation and waste management strategies
- Scientific Officers (permanent and volunteers)

### All across Queensland

*what do you have ? Engineering expertise/trained personnel/resources/arrangements?  
crisis communications? Familiar with national plans- safe meat plan?*

To manage these incidents safely we all have a role to play and need to work together

Remember we are for emergencies – not in general the recovery

Recovery starts when the emergency occurs

