Co-funded by
the European Union

TRAINING SLIDES

OPERATIONAL FIELD GUIDE - PROTECTING COMMUNITIES FROM MARITIME INCIDENTS INVOLVING AIRBORNE POLLUTANTS

UK Health Security Agency

UK Health Security Agency

GENIUS MANIFESTS

Co-funded by the European Union

1 OVERVIEW OF THE TOOL

PROBLEM STATEMENT

Maritime incidents involving release of gaseous or volatile hazardous and noxious substances (HNS) can quickly have implications for wider communities beyond the incident scene. As such rapid decisions may need to be made to protect the public.

OBJECTIVE

Aid decision making in the immediate aftermath of a gas or vapour release, prior to receipt of detailed monitoring and modelling data.

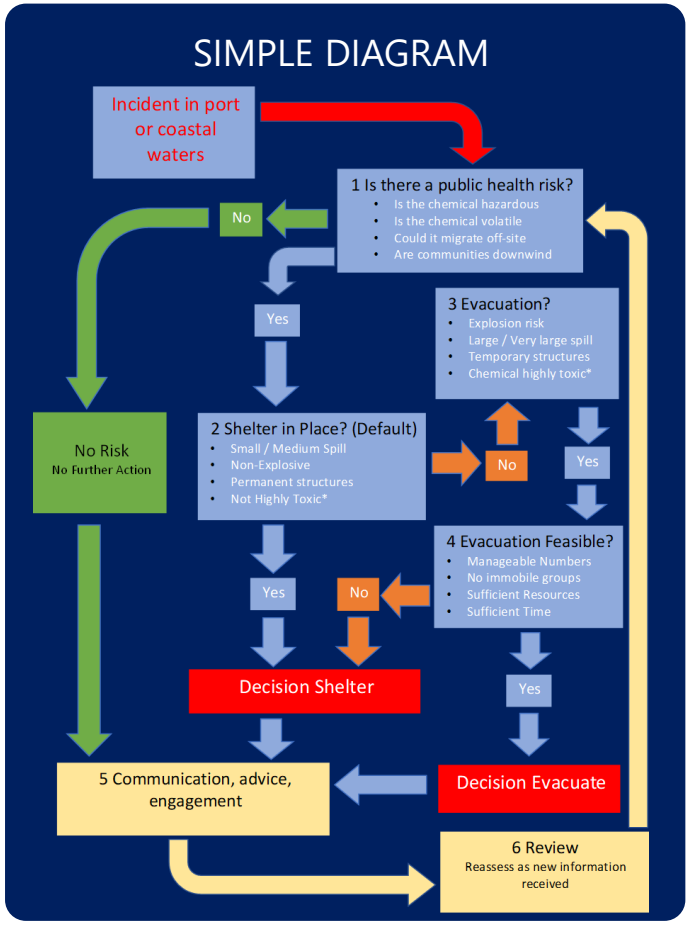
DATA USED

- Protection of wider communities will require rapid collection of information.
- Key data will include knowledge of the chemical(s) involved, estimates of the scale and likely duration of the incident, basic weather conditions, and the types of receptors that may be impacted.

HOW IT WORKS

- Protection of wider communities will be essentially between 2 options: Shelter in Place, or Evacuation.
- The tool uses the source-pathway-receptor approach to assess risk, guiding users through data collection and decision making via a simple decision algorithm as illustrated to select the best option.

SIMPLE DIAGRAM



* Highly Toxic - PAC2 less than 2 ppm (Appendix 2) / Seek specialist chemical advice

UK Health Security Agency

GENIUS MANIFESTS

Co-funded by the European Union

2 HOW IT WORKS & KEY RESULTS

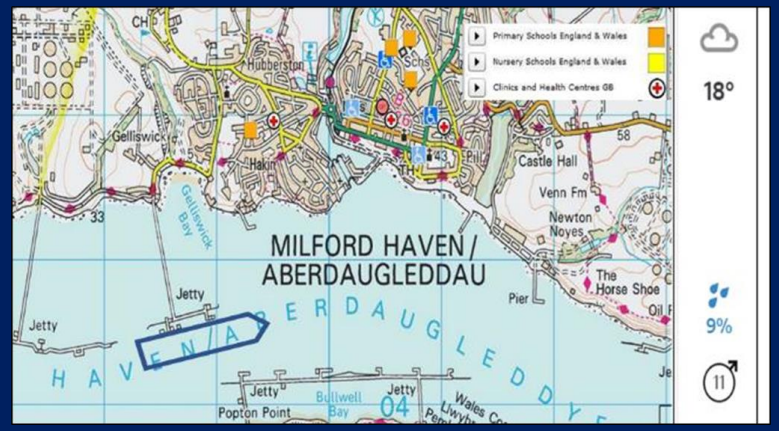
USE CASE

The guide is primarily intended for training of responders but can aid response during an incident. The guide can also aid planning by "gaming" incident scenarios.

OUTPUT EXAMPLE

The guide is primarily intended for A separate guidance document provides illustrative case studies which show users each step in the decision process. For example:

LNG tanker in distress. Captain has reported engine failure. Requested towing to place of refuge. Potential Risk of Over-pressure Venting.



Decision
Shelter in place for wider community. The immediate port area should be evacuated.

ASSESSMENT

Is there a public health risk? – Yes

- Is the chemical hazardous – Methane - Flammable/explosive / low toxicity PAC>2
- Is the chemical volatile – yes buoyant gas
- Could it migrate off-site – yes potential large release. Wind to NE
- Are communities downwind – yes – town of milford downwind

Challenges to default advice? - See challenges in field guide

Evacuation?

- Explosion risk? – **Gas is explosive at 5 to 15%** - Unlikely beyond port
- Chemical highly toxic* - No PAC >2ppm
- Large / Very large spill – Possible – large volume of gas venting – **may be >2hours**
- Temporary structures – No – adequate protection for sheltering

Is Evacuation Feasible? - See field guide

Evacuation Feasible?

- Manageable Numbers? – Whole Town - unlikely
- No immobile groups - potential immobile groups (medical facilities)
- Sufficient Resources? - Whole Town - unlikely
- Sufficient Time? – Whole Town - unlikely
- Acceptable Exposure? – Gas likely to reach town before evacuation possible

Answer – Wider evacuation not likely to be feasible.