

DEBRIEF REPORT

THE MULTI AGENCY RESPONSE TO A FIRE AT M&R COMMERCIALS, FFORESTFACH



INTRODUCTION

This report deals with the operational response to a large-scale fire at M&R Commercials, Fforestfach, Swansea, on 29th May 2017.

The debrief took place on the 20th July at the request of Roger Thomas, Corporate Head of Response, Mid and West Wales Fire and Rescue Service (MWWFRS).

Participants were asked to discuss and complete paperwork on the following questions:

- i. What aspects of the response to the incident did not go so well?
- ii. What aspects of the response to the incident did go well or could be identified as good practice?
- iii. What observations or recommendations for change should be acknowledged or implemented to improve the multi-agency response to emergencies?

CONTENTS

1. INCIDENT SUMMARY
2. OBSERVATIONS AND RECOMMENDATIONS
3. SUMMARY OF RECOMMENDATIONS
4. ACKNOWLEDGEMENTS
5. PARTICIPANTS

AIM OF REPORT

To review the response to this incident to identify good practice and make recommendations for improvements.

The report does not attempt to exhaustively detail or comprehensively summarise the incident.

Facilitator and Author:

Byron Wilkinson

LRF Coordinator
Dyfed Powys LRF

1. INCIDENT SUMMARY

On Bank Holiday Monday, 29th May 2017 at 05:55hrs, Mid and West Wales Fire and Rescue Service (MWWFRS) crews responded to reports of a fire at M&R Commercials, Fforestfach, Swansea. M&R Commercials are vehicle dismantlers for spare parts and salvage.

At 06:29 MWWFRS declared a major incident due to the rapid fire growth at the site and the close proximity of the site to a neighbouring chemical distribution company, Brenntag.

At the peak of the response there were 20 MWWFRS vehicles in attendance including 10 pumping appliances; an Incident Command Unit (ICU); High Volume Pump (HVP); Water Bowser; Unmanned Aerial Vehicle (UAV – also referred to as a ‘drone’); Foam Tender; and Environmental Protection Unit (EPU).

The incident required a multi-agency response from South Wales Police; City and County of Swansea; Natural Resources Wales; Network Rail; Welsh Water; Welsh Ambulance Services NHS Trust; Public Health Wales; and Brenntag.

The fire involved large quantities of scrap vehicles, tyres, and pressurised gas cylinders in racking, on a site measuring approximately 100m by 50m. Directly north of the site is the main South Wales train line which was closed for the duration of the incident, due to the risk of gas cylinders becoming involved in the fire. Adjacent to the site (to the east) a chemical distribution company (Brenntag) stores a range of toxic chemicals including caustic soda, hydrogen peroxide, and nitric acid, in plastic intermediate bulk containers (IBC’s). The M&R Commercials and Brenntag sites are separated by a chain link fence.

The fire spread rapidly from the centre of the M&R Commercials site towards the Brenntag site and the initial operational plan was to prevent the IBC’s being compromised by radiant heat from the fire.

The principal challenges for responding agencies to consider included:

- Potential for release of significant quantities of toxic chemicals into the environment (both airborne and ground water)
- Possible evacuation of local residents and businesses (if chemicals became involved in the fire)
- Inadequate water supplies via local hydrants and time delays in setting up the High Volume Pump (HVP)
- Potential damage to the environment due to fire water runoff
- Welfare of responding personnel

In a key element of the response, Fire Service crews liaised with personnel from Brenntag to remove a number of the toxic chemical IBCs from the area most at risk of catching fire. This allowed additional time to deploy the High Volume Pump (HVP) which provided sufficient water supplies to ensure the fire was brought under control by 11:45hrs. Fire Service crews remained at the site throughout the day, and the ‘Stop’ message to conclude the response to the incident, was received at 22:48hrs.

2. OBSERVATIONS AND RECOMMENDATIONS

This report does not attribute comments to any particular agency or person.

Recommendations are solely related to multi-agency issues and indicate an agency or group that is suggested as the owner.

To be clear and concise, observations have been grouped under these headings:

- **Warning and Informing**
- **Water supply**
- **Unmanned Aerial Vehicle (Drone) use**
- **Multi agency collaboration**
- **Training and Exercises**
- **Hazardous site regulation**
- **Persistent lessons identified**

Warning and Informing

In the early stages of the incident, media messages to reassure and inform the public could have been issued earlier.

It was acknowledged that the procedure used to create and distribute media messages was ad hoc rather than based on a commonly understood procedure. The fact that most agencies do not have on-call media personnel was highlighted as a contributory factor to this observation.

Following discussion on the potential use of on-call media staff from South Wales Police and the existing procedures to activate an out-of-hours multi-agency media response, the following recommendation was agreed:

RECOMMENDATION 1: South Wales LRF Warning and Informing group to examine the suitability, documentation and collective awareness of existing on-call arrangements for media support for Category 1 responders to collectively respond to a sudden impact emergency¹.

¹ The terms 'Category 1 responder' and 'emergency' are used as defined by the Civil Contingencies Act 2004.

Water Supply

A lack of adequate water supplies to tackle the fire in the initial phases of the response was highlighted.

Whilst a lack of water supply was eventually resolved by multi-agency collaboration at the scene, it was stated that the site and surrounding area of this fire has a known poor water supply.

The Fforestfach site on which this incident took place, includes key services and infrastructure that could be adversely affected by a fire that takes a long time to extinguish, due to poor water supplies.

Solutions discussed to address this issue included building an emergency water supply, and improving emergency water supply infrastructure, in what were collectively assessed as critical locations on the Fforestfach commercial and industrial site.

Therefore, the following recommendation was made:

RECOMMENDATION 2: Agencies from South Wales LRF, including the Fire Service, Welsh Water, Natural Resources Wales and City and County of Swansea, to assess the suitability of the water supply in the Fforestfach commercial and industrial site area, based on its fire hazards, and the potential impacts on key services.

Unmanned Aerial Vehicle (Drone) Use

Airborne footage of the site from the Unmanned Aerial Vehicle (UAV) proved very useful. Video from the UAV was used as a briefing tool to share situational awareness and inform decisions about on-scene tactics, impacts of the smoke plume, pollution control strategy, and public safety.

Discussion was held on the benefits of multi-agency use of the UAV and the ability to live-stream and share footage using a secure, web-based, video sharing service.

RECOMMENDATION 3: South Wales LRF to agree a multi-agency process to instigate use of a Unmanned Aerial Vehicle and provide a secure, web-based, video sharing service to allow drone footage to be shared amongst responding agencies in an emergency.²

Multi-agency collaboration

Attendees consistently praised the working relationships at the scene of the incident. It was noted that there was a clear response plan, briefings and meetings were concise and made good use of the collective expertise from different agencies.

Joint Emergency Services Interoperability Principles (JESIP) were adhered to, the fire was extinguished within a short time fire, and no responders or members of the public were injured.

² The content of recommendation 3 was also identified in recommendation 3 of the Egan Tyres debrief in 2016, and recommendation 5 and 6 of the Pipeline leak and A48 closure debrief in 2016. See the section 'Persistent Lessons identified' for further information.

Particular acknowledgement was paid to the timely intervention of the Brenntag staff who used forklift trucks to rapidly move toxic chemical containers away from the radiant heat of the fire.

Training and exercises

It was stated that the previous training and exercises carried out by responding agencies were a key reason for the successful response to this incident. The value of multi-agency training and exercises, to increase preparedness to respond to large scale emergencies, was consistently highlighted.

Hazardous site regulation

It was acknowledged that the close proximity of the M&R Commercial site and the chemical distribution site of Brenntag presents a hazardous risk, which nonetheless, is assumed to meet existing permits and regulations.

Discussions were held on the extent to which neighbouring sites require physical separation or barriers between their high risk combustible products, and how similar incidents are planned for and prevented.

Attendees elaborated on identifying and assessing the risk posed by similar neighbouring sites, responsibility for enforcement and inspection, and the wider economic and critical infrastructure impacts that could occur in a large scale emergency.

Understandably, none of these issues were conclusively resolved at the debrief. Therefore the following recommendation was requested:

RECOMMENDATION 4: South Wales LRF to form a multi-agency task and finish group to report on whether existing hazardous site regulation provides inspection and enforcement powers that sufficiently identify risk, and responsibility for mitigation.

Persistent Lessons identified

Discussions noted the multi-agency response to similar large scale fires and emergencies in Wales. Similarities were identified in terms of the good practice regarding drone use, and the recurring issue of hazardous site regulation.

Below is a table that aims to show the links of the lessons identified in this report with debrief reports of other large scale fires and emergencies. The intention of this table is to provide, by highlighting other debriefs, a source of further information to help ensure the lessons identified in this report can be learnt.

Theme	Debrief report /Date	Location	Recommendation
Unmanned Aerial Vehicle / Drone Use	Egan Tyres fire / July 2016	Port Talbot	3: Mid and West Wales Fire and Rescue Service to arrange for use of a secure, web-based, video sharing service to allow Unmanned Aerial Vehicle (Drone) footage to be shared amongst responding agencies in an emergency
	Pipeline leak and A48 closure / October 2016	Carmarthen	5: Dyfed Powys LRF Coordination and Training group to create a drone use task and finish group to determine a process to instigate the operation of the drone and ensure footage can be shared amongst responding agencies in an emergency
	Pipeline leak and A48 closure / October 2016	Carmarthen	6: Drone task and finish group to run an exercise to test the agreed process to use drone footage in a no-notice emergency
	Fire at M&R Commercials / May 2017	Fforestfach	3: South Wales LRF to agree a multi-agency process to instigate use of a Unmanned Aerial Vehicle and provide a secure, web-based, video sharing service to allow drone footage to be shared amongst responding agencies in an emergency
Hazardous site regulation	Fire at the Henley Estate / June and July 2011	Fforestfach	1: A multi-agency group, based on the South Wales LRF area, should be formed to identify hazardous substances sites and determine and implement mitigation measures
	Egan Tyres fire / July 2016	Port Talbot	4: South Wales LRF to form a multi-agency task and finish group to investigate and report on whether existing waste site legislation provides adequate enforcement powers to sufficiently reduce fire risk
	Fire at M&R Commercials / May 2017	Fforestfach	4: South Wales LRF to form a multi-agency task and finish group to report on whether existing hazardous site regulation provides inspection and enforcement powers that sufficiently identify risk, and responsibility for mitigation

3. SUMMARY OF RECOMMENDATIONS

1	South Wales LRF Warning and Informing group to examine the suitability, documentation and collective awareness of existing on-call arrangements for media support for Category 1 responders to collectively respond to a sudden impact emergency
2	Agencies from South Wales LRF, including the Fire Service, Welsh Water, Natural Resources Wales and City and County of Swansea, to assess the suitability of the water supply in the Fforestfach commercial and industrial site area, based on its fire hazards, and the potential impacts on key services
3	South Wales LRF to agree a multi-agency process to instigate use of a Unmanned Aerial Vehicle and provide a secure, web-based, video sharing service to allow drone footage to be shared amongst responding agencies in an emergency
4	South Wales LRF to form a multi-agency task and finish group to report on whether existing hazardous site regulation provides inspection and enforcement powers that sufficiently identify risk, and responsibility for mitigation

4. ACKNOWLEDGEMENTS

Attendees consistently noted praise and thanks to staff and multi-agency colleagues for the swift and successful response to this incident.

5. PARTICIPANTS

All participants are thanked for their valuable contributions to this report.

Attendees		
Alister Hunter	Technical & Compliance Manager	Brenntag
Chris Dodd	Operations Manager	Brenntag
Mansel Mathias	General Manager	Brenntag
Andrew Walters	Emergency Management Officer	City and County of Swansea
Ryan Thomas	Planning Department	City and County of Swansea
Chris Davies	Chief Fire Officer	Mid and West Wales Fire and Rescue Service
Roger Thomas	Corporate Head of Response	Mid and West Wales Fire and

		Rescue Service
Anna Fracchiolla	Environment Officer	Natural Resources Wales
Owen Caughlin	Environment Officer	Natural Resources Wales
Ceri Roberts	Detective Constable	South Wales Police
Ralph Harries	Sergeant	South Wales Police
Observers		
Simon Pearson	Operational Response Manager - NPT	Mid and West Wales Fire and Rescue Service
Dafydd Thomas	Acting LRF Coordinator	South Wales LRF
Apologies		
Ben Cromie	Emergency Management Officer	City and County of Swansea
Cathy Lloyd	Waste Sites Officer	Natural Resources Wales
Lee Nordoff	Rail Incident Officer	Network Rail
Kristian Hunter	Principal Environmental Public Health Specialist	Public Health Wales