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FORGING A CIRCLE OF TRUST

Landmark petrochem
arrangement for sharing
equipment, ideas
and exercises



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Association
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January 21-22, 2015
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January 18 – 20, 2015

Following the Texas way – in Essex

Petrochemical mutual aid is well established in Texas, with over 100 members of the Channel Industries Mutual Aid (CIMA) scheme. In the UK, just east of London, Essex County Fire and Rescue Service (ECFRS) have set up what is believed to be the first such scheme in the UK – the eight-strong Essex Petrochemical Mutual Aid (EPMA), writes Alan Field.

The EPMA is a landmark agreement reached in 2013 with the biggest industrial sites in Essex working with Essex County Fire and Rescue Service (ECFRS) and other emergency responders to share resources in the event of a major incident.

ECFRS is one of the largest fire and rescue services in the UK. Essex County itself is over 900,000 acres with a population of nearly 1.8 million people. ECFRS responds to some 20,000 incidents per year, varying from those in rural and coastal settings to incidents in industrial locations and large conurbations. There are 12 top-tier COMAH (Control of Major Accident Hazards) sites in Essex, nine of which are petrochemical sites, plus other lower tier locations.

The EPMA ensures that if in the unlikely event a major petrochemical fire – similar to Buncefield – were to break out in Essex, then resources and equipment are available from industrial members to supplement those already in place from the public emergency services such as the ECFRS and Essex Police, amongst other emergency planning and response agencies.

Companies taking part in the EPMA include Calor Gas (Canvey Island); Carlless Refinery (Harwich); Esso (Purfleet), and Vopak (West Thurrock) amongst other key players.

In 2004, the ECFRS set up the 'Petrochemical Strategic Development Group' (SDG). The SDG comprises not only

ECFRS Petrochemical Officers and the SHE Officers of the Petrochemical COMAH sites, but also includes emergency planners from Essex, Port of London Authority, local authorities and County. In order to formalise these relationships and established practices, the Essex Petrochemical Mutual Aid Agreement (EPMA) was signed earlier this year.

Divisional Officer Mark Samuels of ECFRS – himself a veteran of the Buncefield fire – explained: 'If a major industrial fire were to break out, our crews need access to as much foam as possible as soon as possible and this agreement gives us access to more than 100,000 litres of AFFF- AR (3%/6%) foam concentrate immediately. It also creates greater resilience for all of the sites involved.'

'The draft EPMA was greatly influenced by the CIMA (Channel Industries Mutual Aid) arrangement that covers the Houston Ship Channel area in Texas,' said Mark Samuels. 'Why re-invent the wheel? Let's learn from established practices. We obviously had to amend it to suit our own operational and legal requirements.'

This view is borne out by David McCulloch, Deputy UK SHE Manager of Vopak, 'Mutual aid has been an integral part of our emergency response arrangements for many years and this formalised legal agreement can only be beneficial to all parties in strengthening their emergency preparedness.'

The EPMA is more than just co-ordinating foam deployment. As with CIMA, the industrial members within the EPMA have brought a lot to the table in terms of their own corporate approaches to risk management and fire engineering policies. All partners collectively learn from these valid approaches and ideas to manage their own scenarios and can see, first hand, the different fire suppression equipment they have decided to buy.

Mark Samuels explained further: 'Standardisation of tactical fire plans and both desk-top and practical exercises to test these, the understanding of equipment limitations – such as the type of couplings and the purchase of adaptors – are just some of the examples of joint-working successes that the EPMA has achieved so far.'

'Utilising the EPMA we are now able to mobilise specialist equipment such as Williams Fire and Hazard Control Ambassador monitors, a Dependapower mobile fire pump, Daspit Tools and Wands amongst other resources.'

Foam stocks maintained by Essex County Fire & Rescue Service can be supplemented by Hi-Ex concentrate from Calor Gas.





ECFRS Divisional Officer Mark Samuels (right) explains how the Essex Petrochemical Mutual Aid Agreement enables members to mobilise specialist equipment.



One other key element of the EPMA is considering the environmental aspects of foam deployment. For example, one practical aspect has been an ongoing project to ensure that couplings and pumps used by the Environment Agency (EA) are always compatible with EPMA member equipment. This is also part of broader discussions about the pollution prevention plans of all the EPMA partners. Indeed, encouraging standardisation of foam concentrate types can also have an impact on pollution risks as well as the efficacy of deployment and knockdown times.

In addition to low expansion foam, one interesting aspect of the EPMA is that ECFRS now has a much increased capacity to mobilise Hi-Ex.

Essex has one of the longest coastlines of any English county being over 350 miles long, with various commercial docks, such as Tilbury, Harwich and the new London Gateway 'DP World' container port, as well as other maritime influenced risks. There is significant physical infrastructure that is aviation related, including those located at both London Stansted and London Southend Airports which are in ECFRS's area. Moreover, there are LPG storage and distribution risks at some industrial sites in the county. Whilst there has been no regular need to tactically deploy Hi-Ex in Essex, it can be seen that the ability to immediately mobilise Hi-Ex concentrate in large quantities is a genuine resource for ECFRS.

The Hi-Ex resources have been increased by one of the EPMA partners, Calor Gas, who have made available their considerable stock of Hi-Ex concentrate held at Canvey Island. These resources supplement Hi-Ex stocks already being strategically maintained throughout the county by

ECFRS, to feed their Angus Turbex MKII Hi-Ex generators.

Even prior to the EPMA, in 2012, both Calor Gas and the ECFRS combined their Hi-Ex concentrate stocks to tackle a major fire at the Tilbury Power Station. As Mark Samuels commented, "There had long been a gentlemen's agreement to share resources before the EPMA between the various partners. The EPMA simply formalises that arrangement by providing everyone involved with the formal reassurance that in the event of a major incident then resources will be available."

Keith Mead, Group SHE/QA Manager for Petrochem Carless, summarised the matter: "The knowledge and experience of the officers and colleagues within the group has been invaluable in the technical development of fire fighting and foam systems for Petrochem Carless as we are the only petrochemical Top Tier COMAH site in the north of the county. The signing of the Mutual Aid Agreement was the culmination of many years' hard work and brings with it a real tangible benefit to all the operators within Essex, should there ever be a large incident."

ECFRS, working on behalf of the UK Chief Fire Officer's Association (CFOA), is progressing with industry partners the concept and principles of a National Mutual Aid. Progressing the Buncefield MIIB's recommendations, the idea is that the EPMA will be one of a number of regional mutual aid schemes supporting one another with centrally co-ordinated resources and expertise at very short notice. "The overall principles of the proposals were agreed at the recent National Resilience Board meeting and are currently being progressed further," said Mark Samuels.

Mark Samuels concluded by saying: "Each year a number of Fire and Rescue Services approach ECFRS for advice on petrochemical fire fighting. ECFRS is considering holding a seminar/conference for all Fire and Rescue Services and other interested partners who have a petrochemical or other risk where mutual aid arrangements could be beneficial. Draft topics include petrochemical storage tank design, semi-fixed installation systems, petrochemical fire fighting tactics, emergency planning and environmental considerations."

*If you would be interested in attending, contact:
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Conclusion

Mutual Aid schemes, such as CIMA and EPMA, have proved their worth. They – and potential schemes just waiting to be developed – present opportunities for public private partnerships but, perhaps just as importantly, they provide a forum for greater co-operation between industrial partners.

Petrochemical companies are often multi-national businesses with different – but equally valid – approaches to a wide range of risk management matters. These include emergency preparedness and response, as well as the selection of foam concentrates, couplings, pumps, monitors and pollution response strategies to name but a handful. Whilst commercial confidentiality and security issues may always be a potential inhibitor to commercial partners, the benefits of sharing resources and ideas will be seen by many as outweighing that potential disadvantage.

The ability to deliver a mutual aid scheme may become one of the key drivers for a more regional or national planning and response scheme for petrochemicals. Demonstrating that there are already mechanisms in place locally to develop effective exchange of ideas and approaches – as well as the physical sharing of equipment – that can be built upon into a wider and even more positive scheme, could be an influencer to sources of public funding.