



Changing to Fluorine Free Fire Fighting Foam – A Case Study Graeme Day Heathrow



Classification: Internal

Changing to Fluorine Free Fire Fighting Foam



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- Total size of Heathrow Airport: 1,227 hectares (3032 acres)
- Number of runways: 2
- Length of runways: Northern 3,902m x 50m. Southern 3,658m x 50m
- 2016 air transport movements: 473,231
- 2016 Daily average air transport movements: 1,293
- Annual passengers: 75.7 million
- 2016 AFRS Calls :1168



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- Consents to Discharge
- Existing Foam – FFFP
- CAA Environmental commitment – “...reduce the aviation industry’s environmental impacts”. Foam and the Environment Information Paper IP-6
- Research in to alternatives
- ICAO Level B
- Fluorine/Organohalogen free
- Procurement Process
- Operational Testing



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- E-auction
- Contract Award
- Transition
- New Fire Appliances
- ICAO Airport Services Manual Doc 9137-AN/898 Part 1 Rescue and Fire Fighting 4th Edition 2015 Chapter 8, para 8.1.1 (e) “.....effective fire fighting foams.....”



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- To ensure Heathrow Airport Ltd can deploy an effective fire fighting foam if required during an emergency response that will minimise as far as practicable, any pollution impact.
- Ensure that Heathrow Airport Fire Service personnel are able to train regularly using fire fighting foam and its associated equipment.
- Demonstrate responsible management of pollution risks and sensible control measures and deliver sustainability aims
- Partnership forged between separate business areas within Heathrow Airport Ltd – Procurement, Environmental Management and Airport Fire Service



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- Working group established with other specialists used for specific elements of the project (legal, water environmental technical review)
- Environmental training rolled out to frontline fire fighters to communicate the key elements of the project and environmental benefits to build support and generate interest and awareness in environmental benefits. It also offered confidence building in the product to assure that 'environmentally friendlier' did **not** mean operationally deficient.



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- CAA involved in procurement process as an observer.
- Environmental specialists provided technical guidance throughout procurement process.
- Regulators consulted to guide approach and demonstrate commitment to reducing environmental impact of emergency incident response.



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- The procurement process required shortlisted fire fighting foam suppliers to disclose full composition of products. Rather than rely on publicly available information Heathrow Airport Ltd took this step to ensure a detailed assessment of environmental impact could be carried out.
- It is a joint partnership of 3 business areas that had not previously worked together to deliver an environmental sustainability benefit.
- Procurement involved the UK's Civil Aviation Authority to understand the approach which it described as Industry good practice.



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- ADR.OPS.B.010 Rescue & Fire Fighting Services**
(a) The aerodrome operator shall ensure that:
(2) Adequate equipment, fire extinguishing agents and sufficient personnel are available in a timely manner
- AMC4 ADR.OPS.B.010(a)(2) Rescue and Fire fighting Services**
EXTINGUISHING AGENTS
The aerodrome operator should ensure that:
(b) principal extinguishing agent includes:
(2) a foam meeting the minimum performance level A or B or C or a combination of these agents.
(p) arrangements are in place to manage extinguishing agents in terms of selection, storage, maintenance and testing.



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GM1 ADR.OPS.B.010 (a)(3) Rescue and Fire Fighting Services

TRAINING OF RESCUE AND FIRE FIGHTING PERSONNEL

The training of rescue and fire fighting personnel may include training in, at least, the following areas:

- (f) application of the types of extinguishing agents required



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CAP1524: Information on aviation's environmental impact

- Who's responsible for regulating the environmental impacts from aviation?
- international standards developed by ICAO
- legislation from the European Commission
- national legislation from UK Parliament and administered by Government departments such as DfT, Defra and DECC or by individual local authorities and regulated by agencies such as the Environment Agency and Natural England..... *water quality, waste and protecting the natural environment.*
- the Planning Framework operated by local authorities.
- www.caa.co.uk



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How is this managed at Heathrow?

AMC1 ADR.OR.D.005(b)(11) Management system

- Compliance Monitoring Policy
- Compliance Monitoring Team
- Compliance Monitoring Team Meetings
- Compliance Monitoring Schedule
- Sustainable Procurement Policy for Heathrow Airport Limited
- Heathrow Environment & Energy Policy



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- Thank You
- <https://www.easa.europa.eu/regulations>
- <https://www.caa.co.uk/home/>
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