

From the Chief Executive

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Sent via email: office@fbu.org.uk

3rd November 2023

Mr Matt Wrack
General Secretary
Fire Brigades Union
Bradley House, 68 Coombe Road
Kingston-upon-Thames
Surrey, KT2 7AE

Dear Matt,

I am pleased to inform you that HSE's work on the issue of committing firefighters beyond the Bridgehead 'Entry Control Point' wearing Breathing Apparatus (BA) but not under air, is complete.

In my letter of 10 August, I agreed to reviewing the HSE investigations of Hampshire and Isle of Wight and Dorset and Wiltshire Fire and Rescue Services to ensure all the points in your letters have been addressed. I also gave a commitment to reviewing the National Fire Chiefs Council, National Operating Guidance - Fires in Tall Buildings (NOG) as a suitable benchmark for Fire and Rescue Services (FRS) to be measured against. My final commitment was to assess the legal compliance of the NOG against the relevant duties of Control of Substances Hazardous to Health Regulations 2002 (COSHH) and The Personal Protective Equipment at Work Regulations 1992 (PPE).

I will take these in reverse order as any system of work that is safe must be legally underpinned.

1.0 Compliance with COSHH and PPE Regulations

1.1 Where HSE Inspectors identify non-compliance with health and safety legislation they will take proportionate enforcement action to remedy the breach. Both COSHH and PPE Regulations have duties to ensure Respiratory Protective Equipment (RPE) is used correctly. You are concerned the NOG does not comply with these duties as it is foreseeable that firefighters would be required to don the BA not in 'clean air' as required by the manufacturer's instructions. We have reviewed the cited manufacturer's instructions (and the instructions of the other known manufacturer who supply Fire and Rescue Services with BA) but have not found any instructions as to where or when BA should be donned. The cited manufacturer has confirmed that they design and manufacture equipment to European and International standards. They can advise on the ability and limitations of the equipment,

but do not comment at what hazard levels BA should be worn, as there are so many variables to each specific user case, risks and environment to consider. They have advised us that should they receive a request for advice on where to don and doff the BA, they would advise the enquirer to engage occupational health specialists as the first point of contact for assessing when BA should be deployed. The FRS engaged in the benchmark exercise all have access to occupational health specialists either in house or as external providers.

1.2 HSE specialists in the field of occupational hygiene are of the opinion that, where the atmosphere in the evacuation stairwell is safe to breathe and the fire is progressing as expected, it is reasonable to commit firefighters above the Bridgehead wearing BA but not under air where there is a genuine advantage to protection of members of public and for material advantage in fighting the fire.

1.3 The specialists opine that carrying of BA is prudent as should the situation change with the air becoming unsafe, it allows the BA to be donned to reduce exposure whilst egressing from the contaminated evacuation stairwell(s) to the Bridgehead. Whilst not being 'under air' would increase the risk of exposure to products of combustion should conditions change, it allows firefighters to assist members of the public at higher floors when the atmosphere is safe and the risk of exposure via inhalation is low. It also allows firefighters to communicate more clearly with the public.

1.4 Should the evacuation stairwell become compromised, or the Incident Commander or firefighters determine the evacuation stairwell could become unsafe then any committed firefighters should go 'under air' and return to the Bridgehead. Donning of the face mask within an atmosphere where there are products of combustion or other contaminants may mean the firefighter(s) is exposed for a brief period whilst donning the face mask. All new firefighters undergo rigorous BA training (when they join FRS and must demonstrate competence before they are assigned to active duties). Firefighters who were to be used as Stairwell Protection Teams working wearing BA but not under air were given specific training on policy, procedure and risk assessment for that task. However, the level of risk is lower than arrangements permitted by the archived (30 March 2020) Chief Fire & Rescue Advisors, Generic Risk Assessment (GRA) 3.2 where fire fighters would not have any BA and be required to egress the evacuation stairwell without respiratory protection.

1.5 In summary, HSE is satisfied BA manufacturers do not provide instructions on where and when to don the equipment, there is no breach of relevant duties within COSHH and PPE Regulations in that respect. However, firefighters carrying BA not under air is a reasonably practicable measure that would protect them should the air in the evacuation stairwell become unsafe, the BA would be used to facilitate their escape.

2.0 Benchmarking

2.1 Turning to my next commitment, we engaged fact finding interventions with Greater Manchester, Merseyside and London Fire and Rescue Services as three services identified as not adopting the NOG. The aim being to establish what risk control measures, they have implemented and to compare their systems of work against the NOG to ensure they provide at least the same levels of protection.

2.2 Manchester and Merseyside FRS are committing reconnaissance teams to establish the location of a fire, Greater Manchester have reverted to practice established following the

introduction of GRA3.2, whereby the team will not ordinarily have BA. The Merseyside reconnaissance team can be used to conduct immediate and limited interventions within the fire compartment and therefore will wear BA but not be under air.

2.3 London Fire Brigade (LFB) do not have reconnaissance teams but also have reimplemented their arrangements from GRA3.2 (following FBU formal objection to LFB's proposal to commit stairwell protection officers with BA but not activated, triggering LFB's policy to refer to an independent health and safety advisory panel in April 21) and may now commit firefighters above the fire floor without BA to close dry rising main outlets.

2.4 Only Manchester FRS and LFB have policies that allow for Stairwell Protection Teams. These teams are under air which provides respiratory protection to those firefighters should the building compartmentalisation fail. We have been informed that the BA capacity limits firefighter reach to approximately 20 floors above the Bridgehead when acting in the capacity of Stairwell Protection Teams.

2.5 The decision by Merseyside not to have Stairwell Protection Teams means there are no immediate measures in place to monitor whether the evacuation stairwell(s) remain passable for the public or firefighter colleagues sent in to fight the fire.

2.6 By comparison the NOG attempts to lower the risk to the public (and firefighting teams attacking the fire) when a building is performing as expected, irrespective of where they are situated compared to the fire floor by monitoring the stairwell conditions to ensure they remain passable. It mitigates the risk posed to firefighters acting in the capacity of Stairwell Protection Teams not under air by a suite of control measures including firefighter training, gas monitoring, smoke curtains, thermal imaging equipment and wearing BA should the fire compartmentalisation of the building fail.

2.7 Regarding whether the NOG provides the same level of protection as the methods adopted by the three other fire and rescue services. Merseyside FRS does not have Stairwell Protection Teams but utilise reconnaissance teams and external lookouts to monitor building changes, window failure, changes in smoke behaviour, fire spread etc. and if evacuation is required a separate evacuation strategy is implemented. The other two commit their Stairwell Protection Teams wearing BA (under air) whether the air in the stairwell is safe or not. HSE considers when the building is performing as expected and the air in the evacuation stairwell is safe, being under air is not necessary.

2.8 The NOG requires the air in the evacuation stairwell(s) is continually monitored to ensure it remains safe, with BA being available should conditions change and the air become unsafe. HSE considers this risk is consistent with other industries such as chemical and waste industries where a hazardous environment might develop. HSE is satisfied the NOG provides at least the same level of protection to firefighters and the public as the arrangements adopted by Manchester FRS and London Fire Brigade.

3.0 Investigations of Hampshire and Isle of Wight and Dorset and Wiltshire Fire and Rescue Services

3.1 My final commitment to review the investigations at Hampshire and Isle of Wight and Dorset and Wiltshire Fire and Rescue Services (FRS), has now been completed by senior and highly experienced HSE Inspectors. We have ensured that all your concerns have been

put to the Chief Fire Offices of the relevant FRS. The response in the Inspectors opinions address the matters raised and clarify the tactical options associated with committing firefighters beyond the Bridgehead and how the BA will be used. The Inspectors are content that the FRS have demonstrated that they have adequate management arrangements to assess the risks, and to identify, implement, and train against the identified control measures in the National Operating Guidance. As a result, they have not identified any contraventions of health and safety law by these FRS and no further action will be taken at this time.

4.0 Engagement with the NFCC

4.1 I also informed you of the intention to engage with the NFCC as the owners of the guidance and to this end I met with Mark Hardingham, NFCC Chair. One matter we discussed was a second report authored by Andrew Strawson in 2022. Whilst HSE has formed its position independently to this report, I note the findings of the second report are significantly different to the position held by the health and safety advisory panel Mr Strawson chaired, in April 2021, and which you cite in your original letter. Mr Hardingham agreed to my sharing the report with you and I append it to this letter.

5.0 Conclusion

5.1 Having completed this work HSE is satisfied that FRS that correctly implement the NOG will not be in breach of the relevant duties within COSHH and PPE Regulations. However, there are as you know, other health and safety duties that FRS must comply with including the Health and Safety at Work etc Act 1974, the Management of Health and Safety at Work Regulations 1999. To assist FRS HSE produced its 'Striking the balance between operational and health and safety duties in the Fire and Rescue Service' document. The document recognises the need for FRS to balance the operational expectations and health and safety duties in the extremely dangerous environments in which firefighters must work.

5.2 In this case, it is the balance of risk between the tactical advantages of being able to proceed to higher floors above the Bridgehead to ensure a safe evacuation route and the risk presented by the air in the evacuation stairwell becoming unsafe.

5.3 HSE believes, when the building is performing as expected and the air in the evacuation stairwell is safe; the level of risk posed to firefighters acting in capacity of Stairwell Protection Teams is consistent with other industries such as chemical industry where a hazardous environment might develop. Therefore, benefits from the FRS having the tactical advantages of being able to proceed to higher floors above the Bridgehead outweigh the risk of the air becoming unsafe in the evacuation stairwell(s). The NOG provides reasonably practicable measures for the protection for firefighters and the public they serve and provides FRS with a method to assess those risks on the ground by trained and experienced Incident Commanders.

5.4 HSE is also satisfied the NOG is an appropriate benchmark for HSE to measure Fire and Rescue Services compliance against. I appreciate our findings will not be the outcome you will have been hoping for, but I hope this letter demonstrates how important firefighter safety is to HSE. The lengths we have gone to ensure they and the public are protected to the highest standard possible, given current levels of technology.

I appreciate it has taken too long to reach these conclusions and that our earlier engagement did not address all your concerns, this was not acceptable, please once again accept my apologies for this.

I am copying this letter to the NFCC and FRS involved in our work as interested parties.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Sarah Albon', with a stylized, flowing script.

Sarah Albon
Chief Executive, Health and Safety Executive

Cc by email
NFCC Chair
Chief Fire Officer, Hampshire & Isle of Wight Fire and Rescue Service
Chief Fire Officer, Dorset & Wiltshire Fire and Rescue Service
Chief Fire Officer, Merseyside Fire and Rescue Service
Chief Fire Officer, Greater Manchester Fire Rescue Service
Commissioner, London Fire Brigade

NFCC NOG

Responding to fires in High Rise Buildings

Comments on draft NOG

1. I have been asked to assist the NFCC NOG programme to develop its guidance to FRSs on dealing with fires in high rise buildings. The need for guidance to be developed and/or reviewed was given impetus by the Grenfell Fire and Inquiry Report. Prior to the request from NFCC, I had chaired a dispute panel for London Fire Brigade (LFB) specifically on their proposed policy change to allow firefighters to go beyond the Entry Control Point (ECP) "Not under Air" (NUA). My recommendation to the London Fire Commissioner had been that their proposed policy change (on this specific issue) was not appropriate. Subsequently, the Commissioner decided to withdraw the proposed change.
2. During the LFB panel, I became aware that some other FRSs, in particular Kent and Greater Manchester, had implemented policies that also allowed firefighters to go beyond the ECP NUA. However, the panel did not consider, or take account of, those policies, having no information about what, if any, differences there were between them and the LFB proposal.
3. In order to properly consider the NFCC NOG draft guidance, I have visited Kent FRS and had on-line meetings with Greater Manchester and West Midlands FRSs. I would like to thank officers from those services for the documentation they have provided and the time spent in explaining their policies. I raised a number of questions and had a useful meeting with members of the NOG WG. Subsequently, I talked to Carol Downes, HSE Fire Service Lead.
4. I have looked again at LFBs proposed policy and my report to consider whether my recommendations are affected by the additional information I now have. In view of the significant differences in the circumstances in which a deployment NUA is allowed in the different policies and in the purpose of such a deployment, I do not consider that my original recommendation should be changed. However, it may be possible to interpret Para 50 of my report as meaning that there are no circumstances in which a deployment beyond the ECP either without BA or NUA should be allowed. **In the light of the additional information I now have, that Para should only be taken to mean that, for the circumstances and purpose set out in LFBs proposed policy, correcting the omissions and errors would not change the recommendation in Para 49.**
5. This paper, therefore, looks at whether and with what controls a deployment either without BA or NUA can be safe, so far as is reasonably practicable. The following topics are looked at, in brief:

Legal: there are a few specific Regulations that are relevant. More general duties, e.g. under the HSWA and Management Regulations always apply, requiring risk assessment and implementation of appropriate controls, but do not have specific requirements relating to the issue.

Confined Spaces Regulations

6. Under these Regulations a 'confined space' must have both of the following defining features:

- (a) it must be a space which is substantially (though not always entirely) enclosed; and
- (b) one or more of the specified risks must be present or reasonably foreseeable.

Under normal circumstances, a stairwell or lobby will not be a confined space as they do not have both features. HSE's guidance recognises that spaces can become subject to the Regulations when conditions change. It is also possible for the Regulations to cease applying when the conditions change to remove a contaminant or raise the oxygen level, e.g. by ventilation. The practical application for our purpose is that a judgement has to be made as to at what point during an incident a specified risk is reasonably foreseeable and so when the Regulations will start to apply.

7. HSE publishes an ACoP and Guidance on how to comply with the Regulations, but these are clearly directed at employers other than the Fire & Rescue Service so require careful interpretation. There is a hierarchy of control within the Regulations, with the preferred option being not working within a confined space at all, through establishing appropriate systems of work to PPE as a last resort.

Personal Protective Equipment Regulations/COSHH Regulations

8. In essence, these Regulations require suitable PPE to be provided to protect employees where they may be exposed to a risk to their health and safety when that risk has not been adequately controlled by other means. Employees then have a duty to wear that PPE. The key question, therefore, is whether and when Firefighters in High Rise Incidents may be exposed to hazardous substances. In very broad terms, exposures have to be reduced to as low a level as reasonably practicable and, in any event, to below any assigned Time Weighted Average (TWA). In principle, a TWA reflects the maximum average exposure a worker can be subjected to without experiencing significant adverse health effects over the standardised eight-hour working period.

Boundary issues: In practice, the ECP has been regarded as the point at which Firefighters move from a "clean air" zone to a "hazardous air" zone, thus being the point beyond which BA has been worn. However, while simple and convenient, that does not necessarily match the reality of where Firefighters may be exposed to a hazardous atmosphere (and so require BA). Different terminology, for specific scenarios and

purposes, is applied to demarcate zones and that terminology may or may not correspond to that necessary to assess the need to wear BA, when the above Regulations apply.

9. Part of the risk assessment carried out by an Incident Commander, therefore, has to be where on an incident ground and at what stage of an incident, BA must be worn. This cannot be precise (given the time for decision making and the limits on what information the IC has) so should err on the side of caution.

Exposure Levels

10. In principle, all exposures to harmful contaminants are required to be as low as is reasonably practicable. There is evidence that Firefighters are, overall, suffering chronic effects from exposure to products of combustion. RPE has to be worn in appropriate circumstances to reduce this exposure, even if significant exposure also comes from poor maintenance of PPE generally, e.g. clothing retaining such products.

11. Published occupational exposure limits provide (with a margin) for maximum levels that employees can be exposed to. The TWA should indicate the level to which employees can be exposed over a working day without suffering significant adverse health effects. Even though Firefighters are only exposed intermittently, the TWA is the appropriate maximum level beyond which RPE should be worn.

12. Short-term limits for the public assume single, one-off exposures and so are not suitable for the purpose of action levels for donning BA but may be of use when assessing residents' evacuation procedures through contaminated atmospheres and the scale of provision of e.g. smoke hoods.

Communications

13. It will be rare for ICs and/or BAECOs to have line-of-sight communication with Firefighters beyond the ECP. Reliable and continuous communications and BA telemetry are therefore critical. Some buildings are particularly prone to drop-out of comms where there are thick concrete walls and/or steel frames. I believe there are methods of mitigating these problems.

Comments

14. In summary, my comments are:

1. Albeit simple and convenient, the ECP is not necessarily the best boundary point for deciding where hazards exist and so where BA must be worn. Terminology and the demarcation of hazard areas (i.e. those areas where unacceptable levels of contaminants are, or may foreseeably become, present) should be reviewed and training provided on decision making on this issue;
2. Subject always to an assessment by the IC, where compartmentation remains in place, areas such as stairwells can have “clean air” so do not require BA to be worn. In such circumstances, wearing BA NUA can provide an additional level of protection;
3. If compartmentation and/or fixed ventilation measures have failed or appear about to fail, then stairwells and lobbies above the ECP should be treated as hazardous areas subject to the Regulations mentioned above;
4. In those circumstances, ICs should also reconsider the location of the ECP and whether either it may be affected by that failure or access to and from the ECP may be affected;
5. Previous guidance, e.g. GRA 3.2 and certain parts of existing high-rise policies, allowed Firefighters to go beyond the ECP not wearing BA, for specific tasks. In my view, any policy which allows Firefighters to go beyond the ECP NUA should encompass the situations allowed for in those previous policies, i.e. a unified policy;
6. All Firefighters going into areas such as stairwells and lobbies which have the potential to be affected during an incident, without BA or NUA, should carry air monitoring equipment for the most common products of combustion, with pre-set alarm levels at the TWA for those contaminants (also monitors for low oxygen levels). When an alarm sounds Firefighters should either withdraw to a safe place or don BA. Monitoring equipment should be tested and calibrated at the intervals specified by the manufacturers;
7. Comms and Telemetry equipment needs to be in continuous contact between the ECO/Incident Command and each Firefighter with audible and visual indications if the link is lost. Procedures are needed, to be followed if such links are lost;
8. Every high-rise building presents a different challenge for ICs and prior information on layout, fixed fire protection measures and evacuation protocols should be available to crews before arrival at an incident;
9. FRSs should be encouraged to review incident plans for the most difficult high-rise buildings, whether because of size, age or potential for compartmentation failure, recognising that there may be circumstances where not all parts of such buildings may be accessible by Firefighters in an incident. Building owners/managers should be informed of any limitations so their plans and procedures can be adapted accordingly;
10. NOG policies on Evacuation should form a unified whole that allows for evacuation policies based on individual building risk and scale of incident, i.e. a definite decision about evacuation is made by the IC on arrival and reviewed as the incident develops. There is a balance between delaying evacuation too long and evacuating

when it is not necessary (due to the risks involved in doing so). Residents deciding for themselves to evacuate should always be enabled to do so, unless their exit route is already impassable due to smoke/fire (and emergency PPE cannot be provided);

11. The NOG BA policy should be amended to incorporate any use of BA NUA as routine, integral with the overall policy, and incorporated in standard training. Allowance should be made for those FRSs that do not wish to make use of the procedure;
12. There should be clear, simple, procedures to be followed when using BA NUA that ensure proper checks are carried out;
13. Given that extinguishing a fire or limiting its spread will enable any incident to be better controlled, fixed fire-fighting measures, such as sprinklers, seem to be essential in high-rise buildings;
14. Some FRSs will not wish to make use of any potential change in the use of BA at high-rise incidents and, in any event, those that do may not have identical policies. The NOG policy should include provisions for inter-service operations to prevent confusion or Firefighters being expected to follow a different policy to their own;
15. ICs have an enhanced role in assessing the risks and deciding on an appropriate action plan. I suggest the Incident Command NOG be reviewed to ensure the changed policies and procedures are properly understood and implemented.