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Dear Chris,

I am writing in response to the issues you raised at the 26 February 2019 House of Lords debate on the draft Carriage of Dangerous Goods (Amendment) Regulations 2019. You raised some important considerations around radiation exposure levels for emergency workers, and I hope the following explanation provides sufficient clarity.

Definition of ‘emergency worker’

Your statement that “individuals will become de facto emergency workers by their proximity to what is happening” represents a slight misunderstanding of how the Regulations define an ‘emergency worker’. The people covered by the definition are limited to those with a role in an emergency plan and employees who assist in the transition from an emergency state. This means that the provisions in the Regulations that apply to emergency workers would not apply to a person who is incidentally in the vicinity of a radiation emergency and chooses, in that moment, to assist.

Emergency exposure limits

You expressed concern about the “first first responder” arriving at the scene of a radiation emergency, being unable to monitor the level of radiation to which they are exposed, succumbing to a higher dose of radiation than the Regulations permit (500 mSv). Paragraph 3(7) of Schedule 2 to the Regulations requires that any employee who may be involved with or may be affected by arrangements in the emergency plan is provided with “any equipment necessary to restrict that employee’s exposure to ionising radiation including, where appropriate, the issue of suitable dosimeters or other devices.” This means the “first first responder”, whether it is the driver of the vehicle or someone from the police or fire service, will be required to have with them a device which allows them to monitor the level of ionising radiation they are receiving.

Paragraph 3(7) also requires that such workers are “provided with suitable and sufficient information, instruction and training” to enable them to make a judgement on how to respond appropriately to the situation. It is therefore expected that when in an emergency scenario, the “first first responder” (and indeed all subsequent responders) will be aware of how much radiation they are being exposed to and when they are approaching 500 mSv. They will be aware of the 500 mSv ceiling, and will be trained to make an appropriate judgement on what actions to take. A decision to expose oneself to a dose above 500 mSv would be a decision to place one’s own health and life in grave danger.

The 500 mSv ceiling on emergency exposure limits transposes a requirement set out in the 2013 Euratom Basic Safety Standards Directive. This figure was based on extensive examination into the effects of radiation exposure on the human body by organisations such as the United National Scientific Committee on the Effects of Atomic Radiation (UNSCEAR) and is supported by Public Health England.

In the event of an exposure in excess of 500 mSv

Whenever an employee has received an emergency exposure to ionising radiation, paragraph 7(9) of Schedule 2 requires the worker's employer to "ensure that the dose of ionising radiation received by that employee is assessed by an approved dosimetry service" and "recorded separately in the dose record of that employee." Paragraph 7(1)(e)(ii) requires these results to be notified to the Competent Authority (in practice, the ONR). So in the unlikely event that a responder is exposed to a dose in excess of 500 mSv, the ONR and the employer would assess and advise on the worker's situation in terms of health and future work implications.

I thank you for bringing these issues to my attention and I trust this explanation reassures you of the robustness of the CDG Regulations.

A copy of this letter will be placed in the Libraries of the House.

A handwritten signature in black ink, appearing to read 'Henley', with a stylized flourish at the end.

Rt Hon Lord Henley