



## DOSR/RN/2022-03 – Concurrent Processing – Statutory Compliance

Date: Updated 15 Feb 2023

### References:

- A. Explosives Regulations 2014, Regulation 26 (1) (b) and (c).
- B. DSA 03.OME Part 2 Chapter 1 Paragraph 2.3.4.
- C. HSE Explosives Licensing Handbook Paragraphs 68 to 81<sup>1</sup>.

### Background

1. Recently, during a processing activity an incident occurred at a MOD licensed site which has resulted in very serious injuries to a member of staff and, but for good fortune, could have injured others who were in the same room undertaking concurrent processing. This led to the HSE issuing a Crown Stop Notice (CSN).
2. The CSN prohibits the site from parallel processing<sup>2</sup> of explosives, without appropriate measures in place to offer operators and the explosives protection from any fire or explosion at another adjacent workstation. The statutory requirement in Ref A.
3. For convenience Regulation 26 is copied below:
  - (1) *Any person who manufactures or stores explosives must take appropriate measures-*
    - (a) *to prevent fire or explosion;*
    - (b) *to limit the extent of fire or explosion including measures to prevent the spreading of fires and the communication of explosions from one location to another; and*
    - (c) *to protect persons from the effects of fire or explosion.*
  - (2) *For the purposes of paragraph (1), the reference to the manufacture or storage of explosives includes a reference to any handling, on-site transport and testing of explosives which is associated with that manufacture or storage.*
  - (3) *In this regulation, “fire or explosion” means unplanned fire or explosion at the site of manufacture or storage.*
4. While the incident in question is the focus of the HSE’s involvement, and it possibly involved more intrusive processes than undertaken at most MOD sites, the HSE have made it clear that the principles are applicable to all processing activities.

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<sup>1</sup> Class H distance equates to Process Building Distance in Defence terminology.

<sup>2</sup> Concurrent Processing in MOD terminology.



5. Ref. B states: “Concurrent processing of two or more munitions should be avoided since the activities of one processing team places its neighbouring team at risk and vice versa. Whenever concurrent processing of munitions is to be undertaken by 2 or more teams in the same process room, it is essential that the HoE provides evidence that appropriate protection has been afforded to all teams. The operator should also show that it is not reasonably practicable to separate the concurrent processing to different areas or different times”.
6. DOSR are aware of several different understandings as to what constitutes an activity and therefore whether it should be considered that parallel processing is taking place. These include:
  - a. The activity is to process 1000 munitions thus anyone working on the 1000 munitions is part of the team thus concurrent processing is not taking place.
  - b. Each step, in an activity such as a de-fuze / re-fuze a shell, for example, remove fuze, clean fuze pocket, install fuze, is a separate activity.
7. The wording of the CSN, copied below, and subsequent on-site communications with the HSE, clearly indicates the HSE’s stance is aligned to 6b above. Further information regarding the HSE’s approach can be found in Ref. C.

“Parallel processing is generally taken to mean more than one processing step being undertaken at the same time. These processing steps can either comprise multiple stations where a single process step is being undertaken concurrently or several different process steps taking place at the same time.

Your systems failed to ensure sufficient segregation to protect against any fire and/or explosion at a workstation posing a risk to persons or explosives at neighbouring workstations. There was a risk that the incident could have propagated further.

Segregation can be achieved using sufficient physical barriers, time, space, or reduction in the net explosive quantity (NEQ) so that the distances are appropriate”.
8. Once the activity has been identified in line with paras 6 and 7 above, the issue is to identify and implement appropriate measures to limit the extent of a fire or explosion and protect persons “not involved in the activity”.
9. The judgement and evidence supporting the view must take account of likelihood, consequence, reasonable practicability of redesigning a facility, providing physical mitigation, changing the mode of operation.
10. It is not sufficient to simply consider that Regulation 26 (1) (a) is met to such an extent that the likelihood of an event is so low that no measures need to be considered to minimise the extent of an unintentional fire or explosion<sup>3</sup>, or protect non-involved persons.
11. DOSR has previously raised concerns regarding parallel processing and there has been recent work within some areas; the recent incident has brought the issue more sharply into focus.
12. It is recognised that this issue may challenge some long-standing practices within Defence.

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<sup>3</sup> See ER14 Regulation 26 (3).



## Required Action

13. As an urgent priority, Heads of Establishments (HOE) with safety responsibility for explosives processing activities are advised to assess if concurrent/parallel processing, as described in para 6b above, is being undertaken within any of their licensed facilities to satisfy themselves that they are meeting the legal requirements of ER2014 Regulations 26 (1) (b) and (c), and their obligations under Sections 2 and 3 of the H&SAW Act.

14. DOSR recommends that this assessment is conducted before the commencement of any further processing activity and, if any concurrent/parallel processing is identified as part of an assessment and any of these requirements are not being met, which may take time to fully understand, effective mitigation and controls must<sup>4</sup> be put in place to reduce the risk to Tolerable and ALARP and ensure full compliance with the law.

15. IEs are requested to collate the information from the respective TLBs and provide DOSR with a summary of TLB responses and action taken within the IE's AoR.

16. As the HSE investigation progresses, further review of Defence practices and procedures may be required.

## Implementation

17. Effective 25 Nov 2022.

18. Updated 15 Feb 2023.

## Queries

19. Any observations or requests for further guidance on the content of this DRN should be submitted by email to [dsa-dosr-prg@mod.gov.uk](mailto:dsa-dosr-prg@mod.gov.uk).

**Stephen A. Gillstroem McLean, MIEXPE, PIEMA**  
**DOSR TL**

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<sup>4</sup> This is a Legal Requirement.



**Document Reference Number**

DOSR/RN/2022-03

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