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SERVICES TEXTBOOK OF EXPLOSIVES

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PREFACE

This comprehensive revision of the Services Textbook of Explosives textbook is the first since 1988 and the first to be published electronically. It is the work of leading experts from the UK energetic materials community, credited at their individual chapters. Co-editors Steve Murray, former Head of the Department of Engineering and Applied Science at Cranfield Defence and Security and Neil Turner, formerly the MOD UK National Authority for Qualification of explosives, were supported by an editorial board comprising Martin Sloan and Adrian Carp (Defence Ordnance Safety Group); Ian Scattergood (Defence Academy); Steve Hiscock (Navy Explosives Safety); Bruce Martin (DEMS Training Regt); Malcolm Cook (AWE) and Geoff Hooper (Cranfield University). Phil Gill and Matt Parker (Cranfield University) and Justin Fellows (Dstl) provided invaluable and advice during final drafting. Their contributions are gratefully acknowledged

Since 1998 a huge amount of work has been published in the scientific literature, expanding our foundational knowledge and understanding of explosives chemistry and detonics. Policy, process and regulation continue to evolve with legislation and new governance structures, notably the creation of the Defence Safety Authority and the Defence OME Safety Regulations superseding Joint Service Publications. Materials such as cast-cured polymer bonded explosives (PBX) that were new and novel are now in widespread use, enabling a transformation in the vulnerability of munitions.

Looking forward, new manufacturing techniques like Resonant Acoustic Mixing and flow-synthesis will couple with Artificial Intelligence and Machine Learning, producing new ingredients and useful formulations at a pace that would astound our predecessors, heralding a transformation of the energetic materials enterprise from manufacture to end user. We intend to update this textbook regularly, not quite a living document perhaps but one that maintains utility and relevance in the coming years.

Phil Cheese

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