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SHAPED CHARGE JET STANAG:

PROPOSITIONS FOR UPDATED EDITION

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Abstract

This paper regarding Shaped Charge (SC) Jet STANAG is the result of work carried out by the Hazard Assessment and Classification Expert Working Group. The promulgated STANAG 4526 (ed2), not ratified by all Nations, cannot be used as a standardized reference because the 50 mm Rockeye is not available and its performances are not well defined for determination of an equivalent SC; additionally, test set-up is not clearly defined; Consequently, each test center uses their own SC and procedure.

Due to national needs, various standardized SC have been defined: CCEB 62 for France, PG7 Replica for Germany, BRL 81mm for USA.

Thus, it is necessary that new edition SCJ STANAG considers these SC. IMEMG is concerned by the lack of current STANAG consistency and by the numerous SC used by test centers.

NATO standards should be agreed and practicable by all member countries and should not rely on self-interpretation or SC not available for all.

IMEMG experts intend to support current standardization efforts and wish to stress the fact that SCJ STANAG should list a very limited number of approved SC models and test set-ups.

In any case, each SC referred should have an available and comprehensive technical data pack. This has been presented during 2012 IMEMTS.

This new paper develops these issues and proposes some best practices for velocity and diameter determination, some comments about charge diameter on munitions

responses. Indeed for the same v2d, responses can differ according to charge diameters.

In addition, alternative v2d values are discussed taking into account the USA standard (141 mm³/μs²). IMEMG Experts propose the value: 60 to 70 mm³/μs² because this corresponds to the first level of insensitiveness of explosives dedicated to small and medium munitions, and it can correspond to residual v2d after penetrating a steel plate.

This paper could feed discussions for the 2014 MSIAC Workshop dedicated to SCJ STANAG