Ministry of Defence
Defence R&D Organisation

STEC PAMPHLET - 14

INSTRUCTIONS ON PROCESSING / OBTAINING DEVIATION SANCTION

2025

Issued by
Storage & Transport of Explosives Committee
Centre for Fire, Explosive & Environment Safety (CFEES)
Brig. S. K. Mazumdar Marg, Delhi – 110054

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PREFACE

As a result of considerable deliberations, the Storage & Transport of Explosives Committee (STEC) has finalized procedure for processing the cases for obtaining sanction of the deviations from the current regulations. These instructions are issued for the guidance of the different establishments under the Ministry of Defence.

It may be emphasized that the STEC regulations are the best possible compromise between the absolute safety and practical considerations of cost and operational requirements and as such it is desirable that all-out efforts are made to keep the deviations to the minimum.

It is hoped that users will find this revised STEC Pamphlet 2025 simpler, easier to understand and implement, thereby promoting the safe storage and transportation of military explosive. This publication supersedes STEC Pamphlet, 2017 on the subject

PURPOSE AND SCOPE

1. The Storage & Transport of Explosives Committee (STEC) is responsible for framing safety regulations on storage, manufacture and transport of explosives / ammunition. These are covered in various STEC pamphlets. Safety aspects like quantity distances, construction of the explosive buildings, stipulations on electrical fittings, guidelines for firefighting, etc. are covered in these publications. The most important criterion while siting explosives buildings and ancillary utilities is the judicious planning in order to ensure minimum hazard to life and property, should an explosion occur. It is impracticable to prescribe distances which would guarantee absolute immunity from the risk of propagation, damage or injury. The risk inherent in these regulations represents a sensible compromise between absolute safety and practical considerations of cost and operational requirements.

2. There may be occasions when cogent economic or operational considerations usually of a temporary nature, warrant the acceptance of a significantly higher hazard to life and property. Before granting such deviations, it is essential that a detailed assessment of the consequential hazards is made by a technically competent agency i.e. CFEES before the appropriate authorities accept such deviations. The competent authority accepting the higher hazard should appropriately consider the various aspects like operational / production requirements vis-à-vis safety while granting the deviation.

DEFINITION

3. Deviation implies departure from the safety rules and regulations on storage manufacture and transport of explosives as framed by the STEC.

APPLICABILITY

4. The procedure outlined in this pamphlet is applicable to all Ministry of Defence establishments handling explosives and ammunition.

PROCEDURE

5. Request for a deviation on the prescribed format given at Annexure-1 in triplicate is to be submitted by the establishment concerned to the Centre for Fire, Explosive & Environment Safety (CFEES), Brig. S.K. MazumdarMarg, Timarpur, Delhi 110054 through their respective HQ.

6. CFEES will make a detailed assessment of associated hazard to life and property and make suitable recommendations giving palliative measures on the deviation asked for.

7. As per recommendation of CFEES, the respective HQ may obtain the sanction or otherwise of the deviation from the competent authority.

8. After sanction or otherwise of the deviation, the original copy will be returned to the establishment, the duplicate to the CFEES and the triplicate to be maintained by the HQ concerned.

GRADING OF DEVIATIONS

9. For the purpose of classifying and quantifying hazard, deviations may be classified into the following three heads

(a) MINOR DEVIATION

(i) This category of deviation is one where in the event of a mishap, practically the same degree of damage to surrounding utilities and injuries to personnel are expected when normal regulations are followed.

(ii) No simultaneous explosion / fire between stacks of explosives is anticipated.

(iii) Buildings requiring PIQD may be situated between 1.4 RB (Radius of B damage) and 1.5 RB for HD 1.1 explosives. The B damage is such severe damage to domestic constructions of 9 inch (23 cm) brick work as to necessitate demolition.

(iv) Utilities requiring the distances equal to OQD within an enclosed explosive area and other public utilities may be located between 3.8-4 RB in case of HD 1.1 explosives.

(b) SERIOUS DEVIATION

(i) This category of deviation is one where in the event of a mishap, damage to the surrounding utilities is quite severe necessitating stoppage of work in process buildings. Damage to buildings and machines inside them may be extensive and may take considerable time before they are repaired and taken into use. Serious injuries to the personnel working in these buildings are also not ruled out. Minor damage to utilities located at OQD and dwelling houses is expected.

(ii) No simultaneous explosion / fire between the stacks of explosives should be there.

(iii) Buildings requiring PIQD may be situated between 1 and 1.4 RB or a peak blast pressure of the order of 10-15 psi for HD 1.1 explosives and a mean heat dosage of 4 cal/cm^2 for HD 1.3 explosives.

(iv) Utilities requiring distances equal to OQD within an enclosed explosives area and public utilities outside it may be between 3.5 and 3.8 RB in case of HD 1.1 explosives and a mean heat dosage of 1.5 cal/cm^2 in case of HD 1.3 explosives.

(c) VERY SERIOUS DEVIATION

(i) This category of deviation is one where in the event of a mishap the whole factory /establishment including surrounding civilian population and utilities may be seriously affected. Complete demolition of adjoining buildings is likely. Machineries and equipment in these buildings are not repairable. Fatal injuries to the personnel working therein are likely.

(ii) Simultaneous explosion / fire between the stacks of explosives is expected.

(iii) Buildings requiring PIQD are situatedbelow 1RB (where almost complete demolition of the building and fatal injuries to the operators are likely) in case of HD 1.1 explosives and a mean heat dosage more than 4 cal / cm^2 is expected in case of HD 1.3 explosives (fatal injuries to the personnel).

(iv) Utilities requiring distances equal to OQD within an enclosed explosive area and public utilities outside it are below 3.5 RB in case of HD 1.1 explosives and a mean heat dosage more than 1.5 cal/cm2 is expected in case of HD 1.3 explosives.

10. COMPETENT AUTHORITIES FOR SANCTIONING THE DEVIATIONS

The competent authority while accepting the deviation would, in addition to hazard assessment, take into account all relevant factors like operational requirements, production programmes, etc. The authorities competent to sanction different types of deviations are listed below:-

A. OFB, DGQA AND DRDO ESTABLISHMENTS

	OFB	**DGQA**	**DRDO**
Minor Deviation	: Head of the establishment upto three months under intimation to HQ concerned.		
Serious Deviation	: Chairman OFB	DGQA	DG Concerned Cluster
Very Serious Deviation	: Secretary DP&S	Secretary DP&S	Chairman DRDO

B. ARMY ESTABLISHMENTS

For all types of Deviations Minor Deviations Serious Deviations Very Serious Deviations	Fmn. Amn. Dumps, Amn Coys, Unit Amn / DOUs, FAD CAD, PULGAON	GOCs-in-C Command HQ MGO

C. NAVY AND AIRFORCE ESTABLISHMENTS

		NAVY	AIRFORCE
Minor Deviation	:	Local Commander	Local Commander
Serious Deviation	:	DGONA NHQ	Command HQ
Very Serious Deviation	:	PSO Concerned	PSO Concerned

PERMANENT DEVIATION

11. The deviation in no case shall be accepted on a permanent basis.

PERIOD

12. The duration of a deviation shall be examined by CFEES in consultation with the users and generally it should be granted only for a period of one year.

13. In exceptional cases, however, further extension may be considered upto a maximum period of 2 to 3 years. Under any circumstances, the deviation should not be granted for a period beyond three years.

14. The deviation cases can be considered on case to case basis in consultation with the users and the periodicity extended accordingly after checking the progress made by the respective establishment.

RESPONSIBILITY FOR LOSSES

15. The primary responsibility for the losses arising due to accidents rests with the concerned Service / Department / Organisation.

RELAXATION OF QD

16. (a). Relaxation of Inter magazine distances may result in a greater risk of total loss of stocks in other building or stacks or at least their being rendered unserviceable. Furthermore, a much larger explosion may result than that used as the basis for outside QD. Disastrous damage to the property and injury to the general public may be consequence; hence **relaxation in SIQD is not permitted**.

(b) Relaxation of process building distances (PIQD) should only be permitted in exceptional circumstances and where the facilities are judged by competent persons to be capable of providing the necessary protection. Furthermore relaxation should be permitted where the persons working in building are very few.

(c) Relaxation of Outside Quantity Distance (OQD) may result in an unacceptable hazard to life and property hence **no deviation should be permitted in OQD**.

(d) All relaxation cases involving Inside and Outside QDs should be permitted only with the written consent of the competent departmental head after detailed risk assessment and specific recommendations of STEC.

Annexure-1

PROFORMA FOR SUBMITTING DEVIATION STATEMENT AND GUIDELINES FOR FILLING IT

Name of Establishment:

BUILDING DETAILS

1. Building No.
2. Type of building (Process/Storage)
3. Activity in the building
4. Material used for building construction of the walls.
5. Thickness of the walls.
6. Number of rooms.
7. Material and thickness of the partition wall/s.
8. Number of openings in partition wall.
9. Type and thickness of the roof.

PROTECTIVE FEATURES

10. Traversed/Untraversed/Bunker.
11. Type of traverse. (NAT/VIFT/Blast Walls etc.)
12. Lightning Protection System
13. Electrical fittings (TE/FLP/ DT)

DETAILS OF DEVIATION APPLIED FOR

14. Nature of Deviation.
15. Period for which deviation is required.
16. Reasons for the deviation.
17. In case deviation asked for is in respect of Quantity Distances, furnish the following :-

POTENTIAL EXPOSED SITE			**EXPOSED SITE (SIQD/PIQD)**						
Bldg. I	Explosive limit With Hazard Divisi (kg)		Bldg. I	Type building	Operation	Explosive Limit with (kg)	Man limit	Distance PES (m)	
	Authorized	Asked for						Req. for Qty. At (3)	Available
1	2	3	4	5	6	7	8	9	10

18. OQD available from proposed building to

(i) Public Traffic route:
(ii) Dwelling Houses :
(iii) HT / LT line :
(iv) Over Head Tank

19. Give details of any deviation obtained earlier in respect of the building

20. ADDITIONAL INFORMATION, IF ANY

Signature of the head of the Establishment

Date:-

Guidelines for filling up the deviation statement proforma

Name of Establishment in CAPITAL LETTERS

Para 1 to 7	As required
Para 8	Opening means – door, windows, hatchway and ventilator. Number should be indicated in each wall.
Para 9	Mention if ACC, RCC or other type. Give thickness if RCC.
Para 10	Indicate – Traversed by 'T', Untraversed by 'UT'
Para 11	In case building is traversed, indicate its type. If blast wall has been provided, give its thickness with material used, i.e. brick, RCC, etc.
Para 12	Mention the type of Lightning Protection System.
Para 13	Mention the type of electrical fittings i.e. FLP/DT/TE/Ordinary
Para 14	Mention whether for Quantity Distance; for electrical fittings; for lightning protection system; for traverse; for construction deficiencies, etc.
Para 15	Give date, month and year.
Para 16	Full justification must be given here. The Head of Establishment must ensure that full consideration has been given before asking for a deviation.
Para 17	The information pertaining to various columns should be furnished as under :
POTENTIAL EXPLOSION SITE (Building under consideration)	
Column 1	Give building No.
Column 2	Authorised quantity of explosives with Hazard Division should be mentioned.
Column 3	Required quantity of explosives with Hazard Division should be given.
	Contd. on next page

EXPOSED SITE (Buildings which are exposed to the hazard)	
Column 4	Number of exposed building/s is to be given.
Column 5	Type of building, i.e. earth covered (with type of door)/heavy walled / light structure with or without traverse with light or protective roof is to be mentioned here.
Column 6	Process/storage or any other usage should be mentioned.
Column 7	Number of persons authorized in each building is to be given.
Column 8	These are the distances which are required from a given building, with respect to its explosives content, to other utilities, e.g. storage (SIQD), Process (PIQD) and other utilities (OQD), etc.
Column 9	Available distances to affected utilities should be given.
Para 18	The information pertaining to various columns of OQD should be furnished as asked for