

SOP FOR INSPECTION OF INPUT MATERIALS

VERSION-2.0

1.0 Introduction

MOD vide Order No. 16(2) /2004/ D(QA) dated 31st March, 2005 and clarification issued vide Order No. 16(2)/04/D (QA) dated 15th June has transferred the responsibility of inspections of input materials, including raw materials, required by Ordnance Factories. Accordingly, SOP of input materials inspection was formulated & issued by OFB. Subsequently, various amendments were issued based on the inputs received from the various stakeholders.

Keeping in view the evolving scenario in the industrial environment, changes in the govt. policies & demands of the various stakeholders, a need has been felt to review the existing SOP of input material inspection. Accordingly, the existing SOP has been reviewed with due inputs from all the stakeholders.

2.0 SCOPE:

This SOP is applicable for Inspection of Input Materials, components, Assembly, sub-assembly required for manufacturing / supplying the stores for the Indian Army.

3.0 DEFINITION:

- a. **QCO:** Officer nominated by Sr. General Manager/ General Manager in the Rank of AGM/ Jt. GM as QCO who will be overall in-charge of Quality Control.
- b. **Input Material:** Generic Material or article made as per drawing/ specification as indicated in the supply order. It excludes the material required by supplier to manufacture an article as per drawing/ specification.
- c. **Inspection Officer / Agency:** Authorized Officer / Third Party (QCI accredited inspection agency) Agency nominated by Sr. General Manager / General Manager shall be Inspection Officer/Agency

(by physical visit or through virtual interaction including video conferencing).

- d. **Quality Assurance Plan (QAP):** Quality Assurance Plan or Quality Monitoring Inspection (QMI) or Quality Assurance Instruction (QAI) is a document which details the processes, equipment, instruments etc. required to ensure desired quality of the product. Factory shall prepare QAP/QMI/ QAI of the input material & issue along with supply order.
- e. **Specification & Drawing:** Document which details the product, equipment, instruments etc. required to ensure desired quality of the product. Factory to obtain latest drawings & specifications of an input material from AHSP and supply / upload along with tender enquiry/EOI.

4.0 CATEGORY OF INSPECTION SYSTEM:

Factory shall arrange inspection as per following categories:

There will be 3 category of inspection system

- a. Self-Certification
- b. Inspection at Firm Premises
- c. Inspection on Receipt

4.1 Self - Certification Inspection:

This status may be awarded to the firms at the discretion of GM for the item fulfilling following criteria:

- No rejection found in past three years supplies for the particular item.
- The firm should have executed minimum three supply orders during past three years.
- Firm ISO 9001(latest version) certified.
- Firm should have requisite Test Facilities on its own or have access to out-sourced facilities.
- Firm is of national and/or International repute i.e. firm must have supplied /exported their goods to reputed firms.
- The status of self-certification can be granted only when Sr. GM/ GM is fully satisfied regarding quality of stores of the Firm. The responsibility for accepting items on self-certification will be that of Sr. GM/GM and QCO.

4.2 Inspection at Firm Premises:

This status may be awarded to the firms at the discretion of GM for the item fulfilling following criterion:

- Rejection for the particular item in past three years does not exceed 5% of total supplies made.
- The firm should have executed minimum two supply orders during past three years.

4.3 Inspection on Receipt:

This status shall be awarded to the firms for the item not falling in above two categories. In other words, Firms with following conditions will be in this category.

- Rejection found in past three years supplies for the particular item exceeds 5% of total supplies made.
- New source / Executing Development Order.
- Supplying non-critical stores.

The above categorization based on system of Inspection shall be proposed by a sub-committee and approved by GM.

5.0 CRITERION OF INSPECTION:

For all the three categories:

- Relevant Product Specification & Drawings / QAP.
- Any other criterion specified in the supply order.

6.0 ACTION BY FIRM:

6.1 For Self- Certification Inspection:

- The Firm shall give Warranty, pre-inspection report & Test certificate of Lot tendered, any other documents asked by the factory and dispatch the stores to consignee end factory along with warranty as per clause no.-9.1.

6.2 For Inspection at Firm Premises:

On completion of manufacturing & readiness of the stores at different stages of production (as per QAP or mutual agreed terms& conditions), the firm will intimate to the factory regarding readiness of the store along with internal inspection report. On completion of inspection activities by the factory authorized representatives at firm's premises, the firm shall dispatch the accepted stores (by the authorized Factory team/agency) with seal intact duly stamped with acceptance mark. The Firm shall forward its Bills for Payment with I-Note and other requisite documents.

6.3 For Inspection on Receipt:

The Firm shall dispatch the Bulk stores along with internal inspection report to the Consignee End Factory as per Delivery schedule. In case Delivery schedule is expired the Firm shall take approval & DP Extension from Purchase Officer before dispatching the store.

7.0 Action by Factory:

7.1 For Self Certification Inspection:

On Receipt of stores in the Factory, Inspection Officer shall carry out Consignee End Inspection, obtain production section acceptability/comments, if required and sentence the MIS for taking it to stock charge. Any discrepancy noticed shall be immediately intimated to the firm for settlement.

7.2 For Inspection at Firm Premises:

Each factory shall issue instruction/guidelines regarding procedure for the following activities:

- (i) Drawl of Sample & inspection system at firm's premises
- (ii) Bonding of Bulk / Seal Marking

- (iii) Testing & inspection of sample at factory end. Testing is to be carried out in Ordnance Factory Lab/ DGQA Lab/ NABL Accredited Lab/ DRDO Lab.
- (iv) On Receipt of bulk of stores in the Factory, the inspection officer of consignee Factory shall carry out inspection as per inspection criterion. Inspection Officer shall obtain comments of acceptability from concerned production section, if required, before sentencing the Bulk of Material.
- (vi) Wherever feasible, Inspection through QCI accredited Third Party Agency, IT enabled services like virtual/video conferencing etc may be employed to speed up inspection. *General guideline for inspection / testing by QCI accredited third party agency is enclosed as Annexure-A.*
- (vii) In the event, where retesting/ resampling at Firm premises is warranted on account of failure in the first time inspection/ sampling, Factory will recover suitable amount towards TA/DA of the inspection team from the vendor.
- (viii) While formulating instruction / guidelines, Factory may adequately address the issues mentioned in **Annexure- B.**

7.3 For Inspection on Receipt:

On Receipt of stores in the Factory, the inspection officer of consignee Factory shall carry out inspection as per inspection criterion. Wherever feasible, Inspection through QCI accredited Third Party Agency, may be employed to speed up inspection. *General guideline for inspection / testing by QCI accredited third party agency is enclosed as Annexure-A.*

Testing is to be carried out in Ordnance Factory Lab/ DGQA Lab/ NABL Accredited Lab/ DRDO Lab. Inspection Officer shall obtain comments of acceptability from concerned production section, if required, before sentencing the material.

7.3.1 In the event, where retesting/ resampling at Firm premises is warranted on account of failure in the first time inspection, Factory will recover suitable amount towards test/inspection charges from the vendor.

8.0 Timeline for Sentencing of MIS:

Factory should endeavor to sentence MIS within 15 days' time so as to comply with the OFBPM-2018 for timely payment. In order to facilitate the in-house Test/ Inspection, if required, Factory may hire the suitable Man power. *In cases where timeline exceeds 15 days, the same needs to be analyzed on technical ground and nature of specified tests to be conducted. Wherever the MIS sentencing timeline exceeds beyond 15 days, the same shall be approved by Sr. GM/ GM. It should also be indicated in the TE.*

9.0 Action by Accounts Office: Account Office shall make Payments as per the terms & conditions mentioned in Supply Order. However, the payment procedure for the item supplied under Self Certification category is mentioned under clause 9.1.

9.1 Action by Accounts Office for Self- Certification Category:

Account Office shall make Payments on the basis of Warranty Certificate, pre-inspection report, and Test certificate and a covering declaration by vendor jointly signed by supplier's Quality Control Manager and Proprietor/ Managing Director/ General Manager in prescribed format in place of I-Note.

DECLARATION

We hereby declare that the productsquantity supplied by our companyvide challan No. as per the S.O. no & date are meeting all requirements laid down in the specification. We here by undertake to replace whole and / or part consignment as the case may be in the event of its not meeting the requirements / standards laid down in the supply order.

Quality Control Manager

Managing Director/ General Manager
or his Authorized signatory

Supplier's stamp

9.2 Action by Accounts Office: Account Office shall make Payments as per the terms & conditions mentioned in Supply Order for Inspection at firm premises & Inspection on receipt category.

10.0 INPUT MATERIAL RECEIVED THROUGH IFD:

- 10.1** The present practice of quality audit and surveillance by way of control point check and surveillance check carried out by DGQA shall continue.
- 10.2** The inspection note for inter factory transfers shall be issued by quality Control Wing of the factory.
- 10.3** DGQA will issue certificate of having carried out control point checks and surveillance audit. Policy guidelines issued by DGQA vide Letter No. S/209/QA Policy/DGQA/DQA (A)/TC, dated 02-08-2013 will be applicable.

11.0 IMPORTED STORES:

- 11.1** The present practice of Pre- Dispatch Inspection (PDI) by DGQA for items being procured through orders placed by DOD including those under TOT shall continue.
- 11.2** As far as spares and input material procured directly by OFB, the responsibility of inspection shall rest with OFs.

11.2.1 QUALITY AUDIT AND SURVEILLANCE OF INPUT

MATERIAL AND MANUFACTURING PROCESS:

- (i)** Factory will provide test report and other relevant papers on demand for quality audit by DGQA.
- (ii)** Relevant inspection records and tests reports are to be uploaded on NQDBMS for enabling SQA to view the same.
- (iii)** DGQA will allow use of its lab for testing whenever requested by OFs.
- (iv)** In case of critical items to be identified mutually by OF and concerned Controllers/SQAO, selective sampling of input material collected from consignee end will be done by DGQA and tested in the facility available with OF or lab of DGQA without affecting the production schedule. The test results shall be shared with the concerned OF. The frequency of sampling will be initially decided while identifying the critical items and frequency will be increased/ decreased depending on the performance. In case of difference of opinion in identification of

critical items and frequency of sampling, same shall be referred to OFB whose decision in this regard shall be final.

- (v) DGQA shall continue to perform control point checks and surveillance audit as being carried out at present.

12.0 STANDARD CELL: A Standard Cell shall be created in all Ordnance factories under the overall control of QCO and perform following functions:

- i. Shall vet extracts/ indents placed by OFB/ indenter on Factory
- ii. Shall vet IFDs
- iii. Shall vet the Tender enquiries
- iv. Shall maintain repository of QAP to be issued to Vendors
- v. Shall vet Supply Orders placed by the factory
- vi. Shall issue monitoring instructions for inspection
- vii. Shall maintain all records in computer for deviations granted and price reduction imposed.
- viii. Shall initiate action for continual improvement through Alteration committee where better material at competitive rates is available than design/specification.
- ix. Shall maintain national/ international specification & upkeep Drawings for input materials.
- x. Shall maintain & upkeep sample room.
- xi. Shall prepare in association with SQAE the critical stores list and sampling frequency of these critical stores for drawal of samples by SQAE.
- xii. Shall supply the latest drawings and specifications to demanding shops / sections and will withdraw superseded drawing / specifications from the shop / section.

13.0 DEVIATION MANAGEMENT:

13.1 Manufacturing Deviation:

Circumstances arise when the supplier of a store may request permission to depart from the particular guiding production specifications. Such requests may be made either prior to the commencement of production or entail grant of a concession to accept errors made during the manufacturing of a store. The authorization of an intentional departure from store specification, in order to facilitate production, will be made by the issue of a “Deviation Permit”.

13.1.1 DEVIATION PERMIT (only when sought by Supplier before Bulk Production):

A deviation permit constitutes permission to use material or to manufacture components and stores, which differ from design or specification and is limited in its application to cover a definite quantity or period or a particular S.O. Authority for granting a Deviation Permit rests with the appropriate authority/ AHSP. Full particulars of the departure authorized must be stated in the permit.

- All records of deviation granted shall be maintained on computer.
- The standard cell shall periodically review the deviations granted in respect of a particular store and in consultation with AHSP will consider whether particulars could be amended to incorporate such deviations persistently occurring to make the specifications more realistic.
- In case better material is available at competitive rates than design/specification, the proposal for continual improvement through Alteration committee shall be initiated by standard cell.

13.2 In the past system was existing where deviations were granted in following categories:

CATEGORY OF DEVIATION	NATURE OF DEVIATION
‘A’	Major deviations in design and material affecting serviceability/function, interchangeability or durability, but not safety.
‘B’	Major Deviations in design and material affecting durability but not affecting serviceability/function, interchangeability or safety.
‘C’	Deviations in design and material causing minor changes in durability, but not affecting serviceability /function, interchangeability or safety.
‘D’	Minor deviations in design and material but not affecting durability, serviceability/function, interchangeability or safety.
‘E’	Minor deviations in manufacturing details not affecting design, material, serviceability/ functions, interchangeability, durability or safety.

CVC has issued guidelines that sub-standard material should not be accepted even with price reduction. Accordingly, material falling in A, B & C categories shall normally not be granted any deviation.

13.3 However, there may be need to accept material with minor deviations that do not affect serviceability / function, durability, interchangeability or safety. In such cases GM may authorize the officer in charge of quality control (QCO) to approve minor deviations in manufacturing details not affecting design, material, serviceability / functions, interchangeability, durability and safety.

- DGQA will provide list of minor deviations allowed, if any, to OFs which will be used for guidance while allowing minor deviations.
- The vendors should improve the quality of the product so that grant of deviations is not perpetuated.
- Deviations granted shall be intimated to the concerned AHSP giving full details of the supply order, manufacturer, date of inspection, deviation granted.
- Deviations in design/use of alternate material shall not be allowed by OFs. However, in case deviations in design/use of alternate material is required to be granted in specific cases, the same may be allowed after due consultations between OFs and AHSP concerned and with the approval of AHSP.

13.4 a. The Format of Production Deviation (PD) Form is given below at 13.5. The production/QC section shall intimate the need to accept the Input material on deviation to Material Management section, who in turn, shall fill and initiate PD Form given at 13.5 along with Deviation Discount (DD) form, wherever required, given at 13.6 below. The Deviation in PD form shall be filled up and approved by the sanctioning authority authorized by Sr.GM/ GM.

Repeated PD form for input material should be discussed in the Alternation Committee for considering change of specification / new source development.

b. Deviation Discount: There may be cases where deviation, so granted, have significant bearing on the cost of the material. In such cases, Sr. General Manager/ General Manager may like to obtain suitable discount from the firm. A Standing Committee as given in table 13.6.2 below may be formed for deciding the amount of discount. The Standing Committee will decide the quantum of discount and Material Management Section shall intimate the discount decided by the committee to the firm. On receipt of written agreement from firm, the Supply Order shall be amended by Material Management Section to indicate the amount of discount and the MIS will be sentenced and accepted on deviation.

13.5**PRODUCTION DEVIATION FORM**

(Use one form for only one item)

S.O/IFD No. _____ date _____

MIS No. _____ date _____

i) Name of Supplier _____

ii) Nomenclature of Store _____

iii) Particulars quoted _____

Drawing No. _____

Specifications _____

Other Particulars _____

iv) Period, quantity or lot Nos. for which deviation required

v) Description of deviation required _____

vi) Details of specified and suggested material (Chemical & Physical) (in cases of materials only), including a comparative statement of value per unit of specified and of suggested material readily available.

Specified

Suggested

vii) Category for deviation:

Jt. GM/DGM/WM / Material Management

Approved by QCO.

13.6

DEVIATION DISCOUNT FORM

13.6.1

PART I

S.O.NO. : Date : Supplier :

Item : Item Code:

Qty on order : Rate : Qty. of Deviation

Qty accepted under original requirement :

Details of stores accepted earlier under deviation :

Sl.No.	Supplier	Qty. accepted	Nature of deviation	Category	Ref. No.
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M.I.S No. & Date :

Category of deviation :

Deviation sanctioned by : enclose sanctioned PDF Form

DO/MM

13.6.2

PART II

RECOMMENDATION OF STANDING COMMITTEE

Quantum of Deviation Discount recommended (justification for the quantum of DD to be given)

Qty. acceptable :

Reference under which firm has accepted Deviation discount :

Remarks :

Date :

D.O/Standard G.O/D.O/QC G.O/D.O/Prod. A.O Rep. G.O/D.O/PV(MM)

12.6 STANDING COMMITTEE FOR GRANT OF DEVIATION DISCOUNT

STANDING COMMITTEE	QUANTUM OF DISCOUNT	SANCIONING AUTHORITY
GO/DO QC D.O/ Standard GO/DO PV(MM) GO/DO PROD. A.O Rep.	Committee to decide	QCO up to 5%, Sr.GM/GM beyond 5%

13.0 DISPUTE:

In case of dispute between Firm and inspection Officer, the same should be resolved as per provisions of OFBPM in vogue. The un-resolved case can still be referred to Sr. General Manager/ General Manager for appropriate decision.

Guideline for inspection / testing by QCI accredited third party agency

- 1) Ordinarily, in-house inspection is preferred. However, in case, Factory is facing Manpower/ Logistic/ Skill limitation, they can engage Third Party for Inspection support. Factories will refer the web link:-
http://www.qcin.org/nabcb/accreditation/reg_bod_inspection_bodies.php for getting the list of current NABCB accredited inspection agencies.
- 2) Factory may empanel Third Party for Inspection-technology wise through EOI for the purpose of issuing Limited Tender Enquiry for engaging them. Efforts should be made to avoid single vendor cases.
- 3) **Criteria for selection of agency:**
 - i. Agency should have been accredited by QCI for Certification/ Conformity Assessment pertaining to Quality Management System (QMS) of manufacturers (ISO: 9001:2015).
 - ii. Agency should have been accredited for Certification of "Conformity Assessment- Requirements for the Operation of various types of Bodies Performing Inspection as per IS/ISO/IEC: 17020:2012".
 - iii. Educational Qualification of Assessors: The assessors employed by the Third Party Inspection (TPI) Agencies shall be either Graduates in Engineering/ Diploma (Three years) or Masters (in Science or Technology) qualification.
 - iv. Experience of Assessors: Trained in Inspection / Auditing as per ISO: 17020/ ISO 17021/ 19011 (Inspection Standards) and ISO 9001:2015 (QMS Standards) requirements.
 - v. Experience of TPI Agency: The TPI Agency should have conducted at least two TPIS in specific or similar category of products in the past three years.
 - vi. The TPI Agency shall have stable & legal establishment in India.
 - vii. The Assessors/ Staff deployed for the Inspection activities shall be Indian Nationals only.
- 4) For awarding the contract to 'Third Party Agency for Input Material Inspection', provision of OFBPM to be followed.
- 5) Factories are to check whether, validity of accreditation of the inspection agencies with NABCB still exists. Only the agencies, with valid accreditation to be considered.

- 6) Factory shall need to define role and responsibility of 3rd Party Agency explicitly. Concerned Ordnance Factories have to clearly specify the tests and trials to be carried out by 3rd Party Agency.
- 7) Detail of Inspection (Specification, Drawing, Inspection schedule, other Inspection requirements etc.) to be given to the Third Party Agency by Factory.
- 8) Place of inspection to be intimated to the inspection agency.
- 9) Test / Inspection format/ reports to be submitted by third party inspection needs to be clearly brought out by Ordnance Factories.
- 10) Report of the third party agency to be scrutinized by the factory QC & accordingly decision on acceptance of input material will be taken.

- Relevant Product Specification & Drawing/QAP
- Sample drawl and selection procedure
- Raw Material Test Certification
- Necessity to obtain clearance of Raw Material before bulk production
- Change of Inspection Agency by Factory
- Third Party Inspection
- Use of IT enabled services to speed up Inspection
- Right to carry out Process Audit at Firm Premises
- Right to carry out Process Audit at Firm's Subsidiary Premises
- Bulk Material sealing / bonding requirements and procedures
- Secrecy of sample being tested at Factory or outside Labs
- Use of automated gauging / testing equipment to eliminate subjectivity
- Traceability of Supplier / Supply with identification either on the product or its package.
- Return of rejects and traceability to avoid future mix up