

HIMACHAL PRADESH STATE ELECTRICITY BOARD





INSPECTION MANUAL

PREFACE

Inspection is intended to ensure the quality of the goods purchased by Central Purchase Organizations and various Design Directorates of the Board who are responsible for the purchase of general and specialized items of stores (Electrical equipment and Machinery), required for development and maintenance activities of the Board. The material/stores likely to be purchased are required to be inspected for quality before it is dispatched by manufacturers to stores and used at site so as to meet required standards. A Committee was constituted by the Board comprising of Director (E) (P&M), Director (Design), Power House (E), HPSEB, Sundernagar, Director (Design) Sub-station, Hamirpur and Sr. Executive Engineer (E) O/O Chief Engineer (MM) and headed by Chief Engineer (P&M) to prepare & finalise the Inspection Manual. This manual has been prepared to cover the inspection of material, specialized equipments and machinery, authority for arrangement of inspection, Inspecting authority, authorizing authority for inspection, procedure for inspection reports and acceptance of material. The Board has approved the manual on the recommendations of committee and the inspection manual is being published for use.

It is hoped that the Inspection Manual shall be useful for all inspecting officers in the HPSEB and will bring qualitative changes while procuring the material by different agencies of the Board. The Inspection Manual has since been framed for the first time by the Board, officers/officials are requested to follow the same meticulously and suggestions, if any, may be sent to Chief Engineer (MM) for further improvement.

Any error or omission, may be communicated to Chief Engineer (MM), HPSEB, Shimla promptly.

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INSPECTION MANUAL

(a) Introduction/ General

Inspection is intended to ensure the quality of the goods purchased by Central purchase organizations and various Design Directorates of the Board who are responsible for the purchase of general and specialized items of stores (Electrical equipments and machinery), required for development and maintenance activities of the Board. The material /stores likely to be purchased are required to be inspected for quality before it is dispatched by manufacturers to stores and used at site so as to meet required standards. These purchase organizations have the following functions in regard to the inspections of the material likely to be purchased.

- (a) To arrange for inspection of manufacturers works for registration purposes and also for assessment of their capacity/capability of manufacturing the required type of material.
- (b) To arrange for inspection of material to be purchased.

(b) Scope:- It covers inspection of general nature material/ items, specialized Electrical equipments and machinery, authority for arrangement of inspection, Inspecting authority, Authorizing authority for inspection, procedure for inspection and sealing of inspected material, submission, preparation of inspection reports and accepting of material in the stores.

(c) Requirements from manufacturer:- The manufacturer shall at his expense provide all reasonable facilities to inspecting engineers. The facilities will include inter alia all materials, measuring instrument, tools, testing equipments machining facilities for preparation of test pieces and labour etc. The manufacturer shall provide at his expense all materials, labour and transport for carrying out tests at premises other than his, if so considered necessary by the inspecting engineers. The testing charges would be borne by the manufacturer.

The Inspecting Engineer(s) shall have full and free access to the place of the manufacturer during process of manufacturing and during inspection activities.

(d) Inspection Call:- The firm/ supplier shall give at least 30 days call/ notice to the concerned purchase authority for arranging the inspection. The call notice will have full details of the material ready for inspection and place/ address of the premises where the inspection is to be conducted. The firm/ manufacturer will provide all the facilities to the Inspecting Officer at manufacturer's premises. This will be included as one of the clauses of the purchase order. The inspection call will be forwarded to the inspection cell i.e the authorities authorized for nominating the Inspecting Officer/ Officers.

(e) Inspecting Authority:- Unless otherwise nominated the inspecting officer shall not be less than the rank of Sr. Executive Engineer (Preferably Degree Holder) . One officer will be deputed for the general material except Distribution Transformers and Meters. The Inspecting Officer should have experience of inspection of material. For this purpose the inspection cell be strengthened and panel of the officers be drawn from time to time, who will conduct the inspection. Training will be imparted to the newly appointed officers if required in the inspection cell through recognised Institutes.

For material such as energy meters/ distribution transformers two inspecting officers will be deputed for inspection. Out of two inspecting officers one will be Sr. XEN of (M&T). The electromechanical equipment of Power House and power transformers, control and relay panels, towers and sub station structures shall be inspected by two inspectors, one from inspection cell and other from concerned Design Directorate to be nominated by Director/ Chief Engineer concerned, having knowledge about the material. However the stage inspection/ witnessing of type tests if any, be conducted by representative of Inspection Cell/concerned Directorates as nominated.

(f) Nomination of Inspecting Officer:- The inspection cell or the authority authorized for deputing the Inspecting Officers, will nominate the Officer(s) for inspection depending upon the material to be inspected, on the receipt of call from purchase unit. The authority can also waive off the inspection if the waiver has been recommended by the purchase office and in the case the authority feels so. However in this case the acceptance tests shall be carried out by the firm and will be supplied to all the concerned. In respect of the material being procured for Power Houses and Transmission works, one of the Inspecting Officers will be nominated by the Director (Design)/Chief Engineer concerned and the other officer will be from Inspection cell at the Board's level.

(g) Execution of Inspection:- The concerned Inspecting Officer(s) will fix up the date of inspection in consultation with the vendor. Inspection will be carried out at manufacturer's / supplier's premises, normally within 30 days from the date of receipt of call from the manufacturer/ suppliers. As far as possible, facilities available at manufacturer's premises shall be utilized for testing/ inspection.

(h) Inspection Procedure:-

- 1) The inspection and tests shall normally be arranged at the supplier's premises before the material is dispatched to the Board. For this purpose, the supplier shall be required to give at least 30 days notice to the purchasing authority to arrange for the inspection of goods, offered for dispatch on different occasions. In case however the inspection officer finds on arrival at the supplier's premises, that the material was not ready for inspection and that the notice given by the supplier, was hoax, the expenditure incurred by the Board on arranging for such inspection, shall be recovered from the supplier.
- 2) The inspecting officer(s) authorized by the Board to carry out the inspection shall carefully study the order with specifications, drawings and samples and shall satisfy himself that he has all the necessary particulars etc. which govern the supply and has sufficient knowledge of the material, he is required to inspect. He shall also ensure that the manufacturing firms can make arrangements for all the routine/acceptance tests necessary in accordance with the conditions of the contract and contract specification. The contractor shall afford all reasonable facilities to enable the inspecting officer(s) to conduct inspection satisfactorily.
- 3) Stage inspection is done mostly for transformers and electromechanical equipments. However HPSEB can undertake stage inspection for any material. Any or all of following checks can be conducted during stage inspection as desired for a particular item.
 - i) *Verification of documents to ensure that raw materials are procured from identified/ reliable/ reputed sources.*
 - ii) *Verification of test certificates, guarantee certificates etc. for bought out items.*
 - iii) *Inspection of raw materials.*
 - iv) *Checking that final item has been made out of inspected and passed raw materials.*
 - v) *Verification of calibration of equipment to be used for inspection.*
 - vi) *Sealing/ stamping of items inspected during stage inspection to take care that inspected items can be verified at final inspection.*
 - vii) *Submission of stage inspection report to purchaser immediately or along with final inspection report. In case of rejection, immediate report shall be sent to all concerned.*
- 4) The inspecting officer(s) will also ensure that the testing equipments/ apparatus is in working condition and has been got calibrated by the firm and the testing is carried out by the qualified persons.
- 5) Sample shall be taken as per the sampling plan of Purchase Order/ Relevant BIS/Specifications.
- 6) Where a percentage is laid down in specifications for test or examination, this percentage is to be considered the maximum. The inspecting officer(s) should follow the sampling plan as incorporated in relevant BIS. Where no percentage is laid down in BIS, the inspecting officer should atleast test 20% of the material offered for inspection.

- 7) Inspection shall be carried out as per the specifications of the purchase order or relevant BIS/IEC specifications.
- 8) The material inspected/ tested by the inspecting officer of the Board at supplier's end should be sealed or stamped accordingly to their nature in a proper manner, prescribed under the Purchase order. The articles which are too small or inconvenient to be sealed or stamped, should be bundled/ packed, stamped and sealed. The bundling and packing should be done in such a way that the material can not be interfered with after sealing. A facsimile of the stamp or the seal used and its position on the article should be specified in the inspection note.
- 9) The stamping, marking and sealing should be done with a clearly distinguishable identification mark so as to ensure that the inspected material has actually been dispatched by the supplier. Even so, if the material received is found to be defective/ deficient at the consignee's end, the fact should be brought to the notice of the supplier forth with and the defect got rectified or the material got replaced as may be necessary. It shall be the duty of the consignee to report the deficiencies/ defects not only to the suppliers directly but also to the purchasing authority.
- 10) Where weights are given in the order or specifications a sufficient quantity of the material should be weighed to ensure that the average weight is within the limits laid down. The Inspecting officer(s) should take precautions to ensure that material susceptible to dampness as sold by weights such as rope, Jute etc., are reasonably dry at the time of inspection.
- 11) When stores are supplied in boxes, bundles or coils as in the case of tools, rope, barbed wire etc. each of which is required to contain a specified, quantity, reasonable number should be opened up and checked with particular reference to type of material being purchased and purpose for which it is being purchased.
- 12) The dispatch instructions of the material inspected/tested by the Board's representative(s) will be issued according to the instructions given in the authority letter.

(i) **Inspection Report** :- After satisfactory tests and inspection and sealing and stamping of the stores, the inspection report should be prepared and sent to the firm with copies to all the consignees against the order, the Chief Account Officer, purchase authority and inspection cell of the Board.

In respect of stores, which have finally been rejected by the inspecting officer(s), the rejection inspection report should be prepared similarly as above .The reason of rejection and the deviations found from the drawings or specifications on above particulars in such cases, should be clearly specified in the rejection report.

In addition to the inspection and tests referred to above, it may be necessary in certain cases to prescribe the submission of test certificates, issued by the supplier's own laboratories or any other agency, specifically mentioned in the purchase order. In such cases the purchasing authority shall further ensure that the prescribed certificates have been received and duly accepted by it before settling the supplier's claim.

(j) Waiving off of Inspection :- The inspection or tests may be waived off in the exceptional cases and recommendation to this effect may be sent by the purchasing authority to the inspection cell of the Board after recording reasons thereof. The supplier shall in such cases be authorized in writing to send the consignment without the inspection. However the firm will be asked to carryout the various acceptance tests. The supplier shall attach a copy of the purchase office letter to him in this regard and the test certificates with the R/R/GR. Such materials shall however be subjected to inspection at the consignee's end and defects noticed, if any shall be notified promptly to the supplier for rectification or replacement of material as the case may be under intimation to the purchase authority/ inspection cell.