



ISO: 9001, 14001,
& 45001

नॉर्थ ईस्टर्न इलेक्ट्रिक पावर कॉर्पोरेशन लि.

(भारत सरकार का उधम)

NORTH EASTERN ELECTRIC POWER CORPORATION LIMITED

(A Government of India Enterprise)

OFFICE OF THE EXECUTIVE DIRECTOR, CONTRACTS & PROCUREMENT
Brookland Compound, Lower New Colony, Shillong-793 003, Meghalaya, India

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Website : www.neepco.co.in ; CIN – U40101ML1976GOI001658



Corrigendum No.02 dated 08-08-2023

To

NIB No.433 dated 13-07-2023

Name of Work: Renovation and modernization work of Steam Turbine Building of AGBPS,
NEEPCO Ltd, Bokuloni, Dibrugarh, Assam

Following corrigenda to the bid document are hereby issued.

1. Part-4: Conditions of Contract,

APPENDIX-V: MODEL QUALITY ASSURANCE PLAN

The Model Quality Assurance Plan for the work stands modified as attached herewith.

2. Clause 6.1 (ii) (d) "Valid Trade License" under **General Qualifying Requirement** Part-1, NIB, Detail Notice Inviting Bids stands **deleted**.

Chief General Manager (C)
Contracts & Procurement



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NIO

Memo No. QP/C&P/F/C/AGBPS/C/ J.S-18/32/ VOL-1/C2/412-416

Dated: 08.08.2023

1. The Director (Technical), NEEPCO, Guwahati for favour of kind information please.
2. The ED(O&M), NEEPCO, Guwahati, for favour of kind information please. -
3. The CGM(F), Concurrence, NEEPCO, Shillong for favour of information please.
4. The HOP, AGBPS, NEEPCO, Bokuloni, Dist- Dibrugarh, Assam for favour of information please.
5. The GM (IT), NEEPCO, Shillong for information please. It is requested to arrange for uploading this Corrigendum No. 02 dated 08-08-2023 at NEEPCO Website.

Chief General Manager (C)
Contracts & Procurement

NORTH EASTERN ELECTRIC POWER CORPORATION LTD
(A GOVT. OF INDIA ENTERPRISE)



ISO: 9001
ISO: 14001
ISO: 45001

**Renovation and Modernization Work of Steam Turbine Building
of AGBPS, NEEPCO Ltd, Bokuloni, Dibrugarh, Assam.**

MODEL QAP

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1.0 GENERAL:

The actions taken by an intending contractor to provide and document assurance in respect of quality of works what are proposed to be executed shall be in accordance with the contract documents and standards of good practice of construction works. The Quality Assurance Plan (QAP) of the contractor is therefore a documental assurance by the contractor based on the tender document namely the model QAP. The documental assurance i.e. QAP of the contractor/ bidder prepared as per the requirement of model QAP of the tender documents shall be submitted by him along with his bid document.

The QAP of the contractor for the instant proposed contract shall therefore be to ensure that the execution of the work of, -**“Renovation and Modernization Work of Steam Turbine Building of AGBPS, NEEPCO Ltd, Bokuloni, Dibrugarh, Assam”** under the scope of the Contract to be performed by the Contractor or his Sub-Contractor are in accordance with the national or international standards & specification of works. Testing of all construction materials to be used for any structural work/s shall be done as per the relevant BIS standards / codes to ensure its quality and suitability for the given / approved repair methodology based on approved technical specification. All construction materials shall be tested by the contractor for assessing the suitability of the materials prior to usage in construction works as per latest editions of BIS codes of practice.

Any material/s procured from vendor/s shall have its manufacturer's test certificate and shall be used only as per manufacturer's specification and approved methodology. Suitability of materials for a particular type of damage shall be ensured as this may lead to high cost and failure of repair, if the materials used are unsuitable. Care shall be taken during batching, mixing, proportioning, handling and placement of materials to ensure good quality control.

For such quality assurance, the Contractor shall adopt suitable Quality Assurance Program / Plan (QAP) to control his activities at all points of execution process as necessary. Such plan / program shall be outlined by the Contractor and shall finally be accepted and approved by the Corporation before finalization of the Contract.

The QAP of the Contractor shall generally cover the following:

- a) Organizational structure / set-up at field execution site for the management and implementation of the Contractor's proposed QAP dully approved by the Corporation.
- b) Documentation of control system and process for records relating to requirements of quality

system reviewed and approved for adequacy before use. Qualification data for Contractor's key personnel at execution site and for Field Quality Control (FQC) activities. The procedure for purchase & procurement of all construction materials like cement, admixtures, Fosroc Brush bond roofguard, anti-corrosive, Priming, Epoxy and Polyurethane paint etc. and for selection of sub-contractor's / vendor's services including vendor analysis, their source inspection, incoming construction material inspection, verification of material purchases etc.

- c) List of all tests / checks to be carried out for assessing the suitability of construction materials like cement, concrete aggregates, water for concreting works etc. at the project level and also during site tests / pre-commissioning checks etc. in accordance with national or international standards of practice or approved drawings as the case may be. List shall be detailed as follows so as to identify the tests / checks to be witnessed by the Corporation.
- Important checks and requirement as per technical specifications which describe the level of checks, codes, critical tests and also indicate place where testing is planned to be performed.
 - Suitability of construction materials and the test checks before being used in execution in accordance with contract specifications and relevant national or international standards.
 - Inspection which describes quality checks and verification required during execution level at project site.
 - Final Inspection which describes quality checks and verification required before final acceptance of the executed works by the Project Authority.
- d) Field Quality controls including execution process control supported by a FQAP (Field Quality Assurance Plan) to be accepted and approved by the Corporation. FQAP for the civil works under the scope of the contract is broadly classified for material testing, execution activities, testing and commissioning of executed civil works.
- e) The FQAP of the contractor shall therefore include the following:
- Checks on receipt of construction materials like cement, steel materials (both structural & reinforcement), concrete admixtures, grout materials etc. as per actual requirement for completion of the works as per approved technical specification of works under the scope of the contract.
 - Planning & checks for storage / buffer storage of construction materials.
 - Testing & checks during execution of works.
 - Availability of tools and man power, drawings, materials required for execution, execution methodology, test procedure, tests required before commissioning.
 - Checks & controls during execution and commissioning.

- Protocols points (joint records of checks) to be identified.
 - Detailed process for controlling non-conforming products / executed works and system for corrective works.
-
- f) To identify the list of any sub-contractor / vender.
 - g) A detail PERT network showing the various activities such as mobilization of resources to construction site, execution activities, field testing & QC activities, pre-commissioning, commissioning etc. as may be required before & after execution of works.
 - h) Inspection and test procedure both for procurement of all construction materials and field activities.
 - i) Control of calibration and testing of measurement and field activities.
 - j) System for indication and appraisal of inspection status.
 - k) System for quality audits.
 - l) System for maintenance of records.
 - m) System for handling storage and delivery.

2.0 QA DOCUMENTS:

2.1 The Contractor shall be required to submit the following Quality Assurance Documents on receipt of all procured construction materials like cement, admixtures etc. at the project site.

- All test reports like Material Test Certificates (MTC) or Certificate of Conformance (CoC) as the case may be in respect of all materials procured by the Contractor.
- All construction Materials test report as specified by the specification and agreed to in the Quality Assurance Plan.
- The Quality Plan with verification of various inspection as mutually agreed and methods used to verify that the inspection and testing points as required to determine the suitability of construction materials and execution activities are performed satisfactorily.
- All approved NDT (Non-Destructive Test) procedures required to be carried out during the progress of the project work.

2.2 At the project level, following document control procedures shall be followed during execution of works:

- a) Contractor's Quality Control Instruction Manual.
- b) Site Order Book.
- c) Material Control Records.
- d) Daily Progress Report.
- e) Grouting log records
- f) Test Report Control.
- g) Non-Conforming item records.
- h) Other relevant records as decided by the EIC.

3.0 **Contractor's QA/QC duties:**

The contractor's QA/QC duties are summarized in the table below. Apart from these, other duties shall be performed as per the contract documents or as directed by the Engineer-In-Charge for completion of the works as per technical specification of works. It is therefore essential to keep certain documents at site for making a permanent record of each and every items of the works related to the project. Such items may include tests conducted at site, test certificates, instructions issued to contractor, record of drawings issued to the contractor, inventory of the material at site. All such site documents as mentioned at **Cl.No. 2.0** play an important role in assuring the quality of the work. All these documents shall have a definite identification number.

Sl.No.	Activity / Item	Contractor's QA/QC Duties
1	Drawings for the contract	- To Maintain drawing register at site. - To use only approved drawings for construction works.
2	Material receipts & materials testing.	- To enter receipts in material register. - Materials to be tested only in approved laboratories. - To use only approved mix proportions of concrete / grout mix. - To take test samples in presence of NEEPCO's representative when requested. - To perform material tests. - To submit test reports to the EIC. - To maintain test log.
3	Rejected materials	- Entries to be made in material register at site. - To tag and record all rejected materials. - To intimate EIC in writing the proposed date of removal of such rejected materials from site and confirm after removal.
4	Material consumption	To enter daily consumption of materials in material register and indicate balance quantity.

5	Construction equipment	- To intimate EIC the details, date of mobilization along with requisite insurance certificate. - To maintain equipment's in good working condition. - To intimate breakdown of construction equipment's.
6	Construction activities	To intimate the EIC in advance when critical works such as application of Multi-Coat Anti-Corrosive Painting, Application of Waterproof Coating, Injection of epoxy & cementitious grouting, Guniting, Supply & uPVC Pipes of approved Brand, etc. would be undertaken along with the test certificates of the materials proposed to be used in these works. No critical activity shall start unless the material is tested, certificates are verified and approved by EIC".
7	Daily Work Progress	To maintain in daily log records.
8	Inspection of EIC or his representative	- To take instructions in Site Order Book. - To intimate EIC of compliance.
9	Work progress scheduling and control	To prepare and maintain project schedules and undertake work in accordance with approved schedule.
10	Reporting	To prepare and submit Monthly Progress Reports and other reports as per contractual requirements.
11	Records	To maintain the following records on Site/Contractor's Office/Laboratory as given below: - Site Order Book. - Material Register. - Daily Progress Report. - Manufacturer's Test Certificates Record. - Drawing Records. - Non-conformity items record. - Others as per requirement of the contract.
12	Workmanship	All the work executed against the contract shall be of good workmanship.

13	Disposal of debris	All the debris should be disposed of properly after completion of the work.
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4.0 Contractor's QA Compliance on approved QAP:

The Contractor shall establish staff, equip and operate a comprehensive quality assurance set-up at the site and shall ensure to remain under operation throughout the currency of the contract. The principal responsibility and duty of this set-up shall be to ensure that all works carried out and materials procured by the Contractor for the works comply fully with the specifications or relevant BIS or International codes.

With his tender, the contractor shall submit his detailed proposal (in terms of experienced supervisory staff, trained workmen & welders, procedures of work, equipment, obtaining support from outside agencies) for achieving quality in respect of all works included in the scope of work under this proposed tender.

The contractor's proposal for FQAP shall be specific enough to assure that all works are executed in a professional manner and contractor has included in his bid the provision of employment of the best international practices of construction in the implementation of the work. Within 30 days of award of works, the contractor shall prepare and submit **detailed QAP** along with his Field Quality Assurance Plan (FQAP) for obtaining approval of the Engineer-In-Charge. All works shall be executed based on approved QAP.

Immediately after the award of work, during mobilization phase, the Contractor shall take systematic steps to implement all the proposals given by him for achieving the desired quality in execution activities. In addition, contractor shall have to submit comprehensive QA and QC plan in line with technical specifications and relevant codes referred in the technical specifications for review and approval of Engineer-in-charge.

Quality and durability of the civil work depend on the workmanship during execution process. The aim of work is to provide strength and durability to the structure. For this, the workmen involved in execution shall have sufficient knowledge, skills and training to perform the work. Work carried out shall be done in a manner such that the durability requirement is met. All these processes involved shall therefore be carefully supervised by experienced personnel. Well trained, competent workmen are particularly essential when grouting or other such specialized items are involved.

Selection of right procedures is essential to ensure that the quality control for which appropriate techniques are carefully performed. Wrong procedure and workmanship may lead to non-achievement of the desired objective.

One of the common problems that leads to premature failure of any civil work is improper curing, especially cementitious materials which cause early cracking. Recommended curing method is to leave the forms in place when using form-and-pour applications, ponding,

continuous moist curing, and curing membranes.

During the course of execution of the work, quality of the work in progress shall be reviewed at least once in a month or as per the project requirement in the Quality Assurance meeting specifically called by the Engineer-In-Charge and participated by Contractor's project organization. In case, the Engineer-In-Charge is not satisfied with the resources employed vis-a-vis the commitments made in the proposal, the contractor shall take additional steps to supplement his efforts.

The Contractor's personnel connected with quality control assignments at the field level must possess the relevant expertise and competence to perform specific tasks connected with quality control works and shall be well conversant with testing of construction materials and testing procedures for execution of the civil works as per the relevant national or international standards and codes of practice. The objective of quality control shall be clearly understood by them in letter and spirit so as to achieve desired quality in executed works and to achieve high order of quality as laid down in specifications by controlling various factors responsible for deterioration in quality, investigating reasons there and suggesting ways and means for improvement.

The Contractor shall assign one experienced engineer-in-charge to the project site for quality control and quality assurance as full-time **Quality Control Manager**, responsible for complying with all requirements of technical specifications. A check list shall be prepared for incorporating all the technical specifications requirements under different works and shall be displayed in the quality control establishment for ready reference. The experience and qualifications of this engineer shall be given in the contractor's tender and shall be subject to the approval of the Engineer-in-charge.

The positions, qualifications and duties of the contractor's quality control staff shall be indicated in the QC organization plan, and shall likewise be subject to approval by the Engineer-in-charge.

5.0 Types of inspection & QC tests & checks to be carried out:

There are different types of civil works involved under the scope of the contract like,- Grouting , Fosroc Brush bond roofguard, anti-corrosive, Priming, Epoxy and Polyurethane paint etc. The FQAP being a part of the contractor's QAP shall consist of detailed checks & description of test, sampling plan at various stages of material receipt, storage, handling, sampling procedure, pre-assembly, assembly, mandatory physical & laboratory testing prior to usage. Acceptance criteria shall be with reference to approved technical specification of works and acceptance norms like BIS or International codes of practice, approved drawings etc., recognized testing agency, remark and check for acceptance / deviation. The submitted FQAP in the overall QAP shall be in line with national / international standards, approved drawings / data sheet and contract specification. This shall also contain statutory testing requirements so as to satisfy the technical specification as stipulated in the contract.

Following broad based general inspection & QC tests & checks shall be carried out by the contractor during execution of the civil work under the scope of the contract in accordance with the approved technical specification & methodology of works as per contract documents of the civil work.

5.1 DISMANTLING & DEMOLITION OF EXISTING STRUCTURES:

- The Work shall be performed to the dimensions as shown on the drawings or as otherwise directed by the Engineer-in-Charge.
- The approval given by the Engineer-in-Charge to the Contractor's plants and equipment or their operation or of any methods shall not relieve the Contractor of his full and sole responsibility for the proper and safe execution of Work or any obligations under this Contract.

5.2 REPAIRING OF EXISTING DAMAGED CONCRETE:

5.2.1 Material:

Epoxy Grout:

The prepared Epoxy Grout meant for application should be solvent free, fast curing & water insensitive, suitable for damp concrete, which can be filled into lift joints/ shutter joints, cracks or any other damaged locations of concrete for structural repairs. Typical properties of Epoxy resin are listed below:

Compressive strength 100 N/mm ²	Compressive strength 100 N/mm ²
Tensile strength 43 N/mm ²	Tensile strength 43 N/mm ²
Flexural strength 75 N/mm ²	Flexural strength 75 N/mm ²
Adhesive strength 15 N/mm ²	Adhesive strength 15 N/mm ²

Water absorption should be approximately 0.2% or less and shrinkage by volume should be 0.01% or less. The Epoxy resins, in general, should have resistance to acids, alkalis and organic chemicals.

Non- Shrink Cementitious Grout:

The Grout mix shall be stirrer mixed Acrylic Polymer of approved make @ 2% of weight of cement used modified cement slurry mixed with non-shrink compound. The grout shall meet the requirement of ASTM C 1107 Grade C, when prepared according to manufacturer's instruction and tested at 40C and 32oC.

Non-shrink cement-based grout must have a full range of consistencies, including dry pack, plastic and flowable state, to be suitable for use in a variety of applications. Grout should be capable of being pumped flowable without segregation. Vibration only when expressly stated by manufacturer. Grout working time shall be minimum of 60 minutes regardless of application consistency used. The grout shall contain no metallic substances (catalysed or non-catalysed), aluminium powder, water reducing agents, fluidifies, accelerators, super plasticizers, or other materials known to increase drying shrinkage and/ or compromise long-term durability.

Non-shrink cement-based grout shall have a minimum compressive strength of 50N/mm² at 7 days, as determined by test on 50 mm cubes per ASTM-C109. All non-shrink grouts shall consist of only pre-measured, pre-packaged materials supplied by the grout manufacturer, except water. Mixing and pouring of ordinary cement shall be performed at ambient temperature of over 5oC. Grout types shall be mixed according to manufacturer's recommended procedures. The amount of water added to a non-shrink cement-based grout shall not exceed the manufacturer's maximum recommended water content to determine its consistency. The lowest water/grout ratio needed to get the grout in place should be used. Mix the cementitious grout for 3 to 5 minutes for uniform consistency.

5.2.2 Application:

Epoxy Grout:

All visible cracks should be cleaned by removing the loose concrete and sealed with Epoxy Mortar before doing Epoxy grouting. Complete application methodology is briefed in the following steps:

- Mapping of cracks in grid pattern.
- Cleaning of cracks, honeycomb, rough concrete area, etc. with wire brush, high pressure jet, needle hammer, etc.
- Drilling of holes of 16mm dia and at least 30cm deep to fix up the nipples/ nozzles.
- Fixing of nipples/ nozzles in drilled holes.
- Internal flushing of cracks with low pressure water.
- Injection of selected Epoxy grout into cracks through grout nipples from one nipple to the next. On overflow of Epoxy in the adjacent hole, the hole to be closed and continue the injection in the next hole.

Non-Shrink Cementitious Grout:

- Grout placement shall proceed in a manner that assures the filling of all voids and the intimate contact of grouting materials with surfaces to be grouted. The placement of grout shall be rapid and continuous so as to avoid cold joints under any base plate. For open frame-type skid equipment, grouting mortar shall be poured up to the top level of the skid to prevent rain water from accumulating in the skid.
- All grouting shall be done in one direction only, placing grout on one side and working it to the other to avoid trapping air. Placement will be such as to provide full and uniform bearing under all foundation bearing surfaces. Re-tempering of grout by adding more water after stiffening is not permitted.
- Hydrostatic head pressure shall be maintained keeping the level of the grout in the head box above the bottom of the base plate. The head box shall be filled to the maximum level and the grout worked down to top of base plate. All exposed grout shall be provided with a 25 mm, chamfer, unless otherwise directed by purchaser's Engineer-in charge. The final level of the grout shall be as installed with all chamfer edges built into the formwork.

5.3 MISCELLANEOUS WORKS:

5.3.1 Supply & Application of Multi-Coat Anti-Corrosive Painting:

The scope of the instant work is supply and application of a multi coat, anti-corrosive, Priming, Epoxy and Polyurethane Paint on properly cleaned & prepared metal surfaces. The metal surfaces shall be properly cleaned manually using emery papers & grinding wheels. The Priming coat shall be 1 (one) coat of Rust OCap from Asian paint or equivalent having minimum 80 DFT. The epoxy paint shall be 1 (One) coat of Asian Epoxy HB from Asian Paints or equivalent having minimum 50 micron DFT. The PU Paint shall be 1 (One) layer of Apcothane CF 675 from Asian paints or equivalent having minimum 40 micron DFT.

5.3.2 Supply & Application of Water Proofing Coating:

The scope of the instant work includes supply & application of 3 (three) coats of Fosroc Brush Bond roof guard or equivalent a single component acrylic polymer brush bond roof guard, single component acrylic polymer modified reinforced high build water proofing compound after priming to achieve minimum 1mm DFT in total. Minimum coverage of the Water Proofing coating shall be 0.5 ltr per sqm per coat. The compound shall be excellent crack bridging ability and adhesion with concrete. The coating shall be applied over a clean and prepared surface primed with a coat of suitable primer. After completion of entire application procedure, the surface shall be left for air curing for minimum 48 hours period.

The cured membrane shall have minimum tensile strength of 1.1 MPa as per ASTM 0412 and 100% elongation as per ASTM D12. The membrane shall exhibit very low penetration to rapid chloride as per ASTM C1202-03 with pull of adhesion of 0.92 MPa as per ASTM D4541. The cured membrane shall have resistance to the growth of algae as per ASTM 05589-97. The permeability of the membrane

shall be 5mm as per BSEN 12390 Part 8 and water vapour transmission of 6 kg/sqm as per BSEN 12390 part 8.

5.3.3 Painting Works:

This specification covers painting of both interior and exterior surfaces of masonry, concrete, plaster, structural and other miscellaneous steel items, external surface of over ground water pipes, rain water down comer, etc. as shown on drawings or as directed by the Engineer-in- Charge.

Materials shall be highest grade products of well-known approved manufacturer and shall be delivered to the site in original sealed containers, bearing brand name, manufacturer's name, and colour shade, with labels intact and seal unbroken. All materials shall be subject to inspection and approval by the Engineer-in-Charge. It

is desired that the materials of one manufacturer only shall be used as far as possible and paint of particular shade be obtained from the single batch. All paints shall be subjected to analysis from random samples taken at site from painter's bucket, if so desired by the Engineer-in-Charge. All prime coats shall be compatible to the material of the surface to be finished as well as to the finishing coats to be applied. All unspecified materials such as turpentine or linseed oil shall be of the highest quality available and shall conform to the latest IS Standards. All such materials shall be made by reputed and recognised manufacturers and shall be approved by the Engineer-in-Charge.

All colours shall be as per painting/finish schedule and tinting and matching shall be done to the satisfaction of the Engineer-in-Charge. In such cases, where samples are required, they shall be executed in advance with the specified materials for the approval of the Engineer-in- Charge.

Multi Surface paint shall be made from water-based acrylic copolymer emulsion with rutile titanium dioxide with excellent adhesion to plaster and cement surface and shall resist deterioration by alkali salts. The paint film shall allow the moisture in wall to escape without peeling or blistering. The paint, after it is dried, should be able to withstand washing with mild soap and water without any deterioration in colour or without showing flaking, blistering or peeling, etc. The paint shall be applied on walls in 2 (two) layers @ 1.25 ltr per 10 sqm of area over 1 (one) coat of special primer @ 0.75 ltr @ 10 sqm of area.

5.3.4 Guniting:

This works specification for guniting works covers all the resources and machine plus the technical requirements for gunit mix, machine and plant, surface preparation, method of operation, quality control and works acceptance criteria.

The gunit mix shall be single component, fibre reinforced shrinkage compensated, polymer modified structural grade repair mortar like Fosroc Renderoc SP 40 or equivalent. The total thickness of the gunit mix layer shall be 25mm.

Guniting shall be carried out by directing the nozzle perpendicularly ($1.5\text{m} \pm 0.3\text{m}$) to the surface to be gunited. Guides shall be set-up to establish good finish surfaces.

The repair mortar shall have a compressive strength of minimum 45 MPa, flexural strength of

minimum 7 MPa & Tensile Strength of 2.5 MPa at 28 days.

5.3.5 Supply, fitting & fixing of uPVC Pipes:

The scope of the work includes supplying, fitting & fixing of approved uPVC Pipes of different diameters with all necessary “R” brand or approved uPVC fittings such as Bend, Tee, Elbow, Reducer, Nipple, Plug, Long Screw, Fitting Clamps, etc. complete at all levels including above ground level as shown in the drawings or as directed by the Engineer-in-Charge.

Materials:

The materials for the Pipes and Fittings shall be un plasticized poly vinyl chloride compound or formulation. The uPVC pipes shall be Socket and Spigot type. uPVC fittings shall be injection moulded except for bends and repair sockets which shall either be injection moulded or formed from pipe complying with relevant IS/BS standards. Solvent, welded fittings, shall comply with relevant IS/BS standards. Each pipe shall be legibly and indelibly marked at intervals not more than 3m with the manufacturer’s name or registered trade mark cold stumped with indelible ink on it. Each fitting shall have the manufacturer’s name or registered trade mark cold stumped with indelible ink on it. Each bend shall have the angle in degrees cold stumped with indelible ink on it.

6.0. Control of non-conformities

Non-conforming products and executed works shall require following types of disposition action:

a) Acceptance for repair or rework:

In case of acceptance with repair or modification or rework, approval of repair/modification or rework process shall be obtained from the EIC. Inspection for acceptance after repair / modification or rework shall also be ensured.

b) Rejection:

It shall be ensured that rejected material / works do not find way back for acceptance. It shall be suitably segregated and disposed of.

c) Preventive action:

In course of reviewing non-conforming product / work, the cause of incident and situation leading to it are usually revealed. Corrective action which is necessary to eliminate to avoid recurrence shall be taken.

7.0 Format for Contractor's Field Quality Assurance Plan (FOAP) :

Contractor's Logo		Contractor's name & address	Field Quality Assurance Plan (FQAP)					Project name: Renovation and Modernization Work of Steam Turbine Building of AGBPS, NEEPCO Ltd,, Bokuloni Dist.-Dibrugarh, Assam	
			Item of works :						
Sl.No.	Activities	Characteristics	Class of check	Type of check	Quantum of check	Reference Document	Acceptance norms	Format of records	Remarks
1	2	3	4	5	6	7	8	9	10

Guidelines :

- Column 1** : Serial number.
- Column 2** : Item of work / material in detail including exact area and stage of processing, testing, etc.
- Column 3** : Characteristics of checks like , physical, visual, dimensional, hydraulic, chemical, mechanical, performance, ultrasonic etc.
- Column 4** : Class shall be classified as critical (A), major(B) and minor(C). [**Critical class (A)** : Checks for defects those are deemed to be hazardous or totally unsafe. **Major class (B)** : Checks for defects those are likely to create failure of the component / structural unit for its intended purpose. **Minor class (C)** : Checks for defects those are discrepancies from the acceptable standards but are not likely to affect the usability of the component / structural unit.]

Classification of checks	Checking Authority	Accepting Authority
Critical (A)	NEEPCO & Contractor + FQA	Project Authority / EIC
Major (B)	NEEPCO & Contractor	NEEPCO-Project Authority.
Minor (C)	Contractor	NEEPCO- Engineer-In-Charge.

- Column 5** : Type of check shall indicate nature of check i.e. visual, measurement, physical, chemical analysis, Non Destructive Test etc.
- Column 6** : Quantum of check shall be 100% for all characteristics preferably unless otherwise mentioned in reference documents. In case of non-conformity, accepting authority shall ensure & approve disposition before accepting and the disposition shall have to be reflected in Log-sheets / protocols.
- Column 7** : Reference standard / drawing / technical specification etc. as per which checks / tests to be carried out shall be indicated.
- Column 8** : Acceptance norms like plant standard, design data, standard/s etc shall be indicated.
- Column 9** : Appropriate format/s or certificate on which test/ inspection results to be recorded shall be indicated.
- Column 10**: Any specific remark/s shall be written here in this column.