APGENCO

QUALITY MANAGEMENT SYSTEM MANUAL

Incorporated vide

G.O.O.No.307/JS(Per)/2016, Dtd:22-02-2017

APGENCO

K. VIJAYANAND, IAS
Managing Director

ANDHRA PRADESH
POWER GENERATION CORPORATION LIMITED
(Govt. of A.P. Undertaking)

CIN : U40109AP1998SGC030806

FOREWORD

Andhra Pradesh power generation corporation (APGENCO) is one of the leading power generators in the country with the capacities including Thermal, Hydel, Solar and Wind respectively. APGENCO is playing key role in the power generation in divided state of Andhra Pradesh.

The power demand in India is very high and to keep up the pace with development of Indian economy high availability and plant load factors are essential .The power plant equipment and system is very complex and requires effective quality assurance system and procedure in order to achieve high availability and reliability. The experience of leading power utilities operating in India has been carefully considered while formulating these requirements. The requirements should help APGENCO a great deal in their quality initiative.

It is a known fact that electric power is the basic need of human being like food, shelter etc ., it is our prime duty to supply uninterrupted electric power at an optimized price. In order to achieve this, the role of every employee is vital and can be achieved , if we follow systematic methods.

APGENCO management has established an exclusive quality control department in the combined state to reach the targeted goals of power generation with optimized price. In order to achieve this a systematic approach is required in which quality thinking should play an important role in the areas such as material procurement, execution of works, erection of new projects and operation & maintenance of plants. To achieve this an exclusive Quality management system (QMS) manual is prepared which governs total quality approach in the function of our organization . M/S National Thermal Power Corporation (NTPC) was assigned to submit a QMS manual duly studying process of APGENCO in depth. Accordingly, M/S NTPC have gone through the existing methodology in the process of material procurement, execution of works and after debating at length with all the engineers and completed the assignment . M/S NTPC has submitted a QMS manual to suit to APGENCO with a detailed methodology including implementation procedures.

Contd.. 2

I have gone through the QMS manual and really appreciate the methodology adopted in awarding contracts, inspections, quality audits, and vendor selection which definitely plug the deficiencies in the system while achieving the good quality which in turn improves the efficiency in all the fronts such as Plant Load Factor, Plant Availability Factor etc., with minimum breakdowns. I feel this manual definitely be useful and bring a change in our organization. The procedures and practices laid down in the manual are very much useful and formats can become a good documentation for future reference. Further, these formats definitely bring a standardization to the organization.

The preparation of QMS manual was coordinated by Quality control team headed by sri.L.NARSHIMULU, Superintending Engineer . I appreciate the efforts made by the Quality Control wing to bring the QMS manual in full shape to suit to APGENCO. Further, this manual was placed by the Superintending Engineer/QC before 147 th Board meeting and it was discussed by the full Board members and has been approved .In view of above, I propose all the concerned to follow the QMS manual for betterment of APGENCO and should be " *simper ad meliora* ".

K.VIJAYANAND, IAS

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ANDHRA PRADESH POWER GENERATION CORPORATION LIMITED
ABSTRACT

APGENCO – Implementation of Quality Management System Manual – Orders –Issued.

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G.O.O.No.307/J.S.(Per)/2016 Dated.22 .02.2017
Read the following :-

01). Minutes of 147th Board Meeting held on 23.06.2016.
02). G.O.O.No.194/J.S.(Per)/2016, Dated 17.09.2016,

-: O :-

ORDER :-

In the 147th Board Meeting held on 23.06.2016, the Quality Management System Manual was approved and the Board was decided to constitute a Committee with Director/Thermal, Director/Hydel and Director HR&IR to study and to frame the rules and guidelines for implementation.

02). Accordingly, the G.O.O.2nd read above, a Committee was constituted with the Director (Thermal), Director (Hydel), Director (HR&IR) as a members and Superintending Engineer, Quality Control as Convenor to submit frame the rules and guidelines for implementation of Quality Management System Manual at the earliest. The said committee has submitted the report.

03). After careful consideration, APGENCO hereby communicate the Quality Management System Manual along with the guidelines.

04). All the concerned officers are requested to take action accordingly.

05). These orders shall come into force with immediate effect.

(BY ORDER AND IN THE NAME OF ANDHRA PRADESH POWER GENERATION CORPORATION LIMITED)

V. USHA,
JOINT SECRETARY (PER)

To

All Chief Engineers/Superintending Engineers
All FA&CCAs/Dy.CCAs
The Chief General Manager (Adm, IS & ERP)
The Joint Secretary (Per).

Copy to the :-

PS to Chairman
PS to Managing Director/APGENCO/VS/Hyd
SAO to Director (Finance)/APGENCO/VS/Hyd
AS/PO/DE/ADE to Directors of APGENCO
Company Secretary/APGENCO/VS/Hyd
DE/MPP/VS/Hyd//Pay Officer//AO/CPR/VS/Hyd
PA to Chief of Vigilance and Security/VS/Hyd
S.F/Spare.

C.No.JS(Per)/DS(E)/AS(REG)/PO.REG)/06/2016

//FORWARDED :: BY ORDER//

PERSONNEL OFFICER

The Guidelines for implementation of the QMS Manual

The Quality Control wing was formed by the APGENCO management in the combined state and M/s NTPC was assigned the work of preparation of Quality manual. Accordingly, the QMS was prepared by M/s NTPC duly studying APGENCO rules and procedures in vogue and discussed with various wings at stations level and corporate level, who are involved in material procurement and works executions. Hence the procedures and formats of the QMS Manuals are such that they can directly fit into existing APGENCO system/procedure in vogue.

The manual prepared mainly for new projects which are under construction as well as for existing projects.

The Objectives of quality Management System:

i. To procure the Materials and Services of the best quality based upon the predetermined standards, technical specifications and suitability, for construction of new projects as well as for operation & Maintenance of the existing Power plants/Stations.

ii. To reasonably ensure the compliance to technical requirements mentioned in the contract for Equipment and Services rendered by Contractors/ Suppliers.

iii. To ensure the highest performance of the Plants at optimized cost of production.

iv. To ensure the highest availability, reliability and productivity of the plants / Power Stations.

v. To minimize the cost of projects by optimum selection of materials/equipment and contracting agency duly following national and international standards which are envisaged in the formats in the Quality Management system.

vi. To achieve the ultimate objective, as said in our existing purchase management, to purchase the right quality of materials at right price from right source.

vii. Finally to achieve the generation of adequate and reliable power most economically, efficiently and eco-friendly.

viii. The QMS shall effectively contribute to the smooth, expeditious and efficient realization of corporation's laid down goals and targets, within the policy framework set for itself and to achieve the objectives of QMS, mentioned above.

ix. The QC is accountable for their decisions under the QMS system.

x. As the QMS is meant for smart procurement of the material and services, as detailed above, and expeditious realization of corporate goals, any constraints or impediments in this direction shall promptly be brought out the notice of the concerned competent authority for review and rectification.

xi. The indent wing may request the Quality Control wing for the suggestions / advice at the time of preparation of specifications.

xii. The Quality control wing SE /DE may participate in the negotiations up to MD level committee negotiations.

APGENCO

QUALITY MANAGEMENT SYSTEM MANUAL

ISSUE – I, REV - 0

February' 2017

Table of Contents:

APGENCO profile

Andhra Pradesh Power Generation Corporation Limited **(APGENCO)** is one of the pivotal organizations of Andhra Pradesh, engaged in the business of Power generation. Apart from operation & maintenance of the Power Plants, it has undertaken the execution of the ongoing & new Power Projects scheduled under capacity addition program and is taking up renovation & modernization works of the old Power Stations.

APGENCO came into existence and commenced operations from **01.02.1999**. This was a sequel to Governments reforms in Power Sector to unbundle the activities relating to Generation, Transmission and Distribution of Power. All the Generating Stations owned by erstwhile APSEB were transferred to the control of APGENCO.

After reorganization of the state of Andhra Pradesh according to Andhra Pradesh Reorganization Act' 2014, the assets, liabilities, employees etc. of APGENCO were apportioned between the two corporations of the successor states.

The installed capacity of APGENCO as on **02.06.2014** after Andhra Pradesh State Reorganisation, is **4559.6 MW** comprising of **2810.0 MW Thermal**, **1747.6 MW Hydro** and **2 MW Wind** contributing about half the total energy requirement of successor state of Andhra Pradesh.

Vision, Mission & Core Values of APGENCO are:

Vision

- To be the best power utility in the country and one of the best in the world.

Mission

- To spearhead accelerated power development by planning and implementing new power projects.
- To generate adequate and reliable power most economically, efficiently and eco-friendly.

a) To implement Renovation and Modernisation of all existing units and enhance their performance.

Core Values – STAIS

- *Self-Discipline*
- *Team Work*
- *Accountability*
- *Integrity*
- *Social Responsibility*

With a view to fuel the expected growth & requirement of maintaining high levels of reliability of operations, APGENCO has created a full-fledged Quality Department, to undertake Quality Assurance & Inspection activities in a systematic manner. This manual has been formulated to provide uniform guidelines & streamlined working of the QA&I department and is expected to give impetus to the Quality crusade of APGENCO.

Record of Revisions

SEC. No.	REV. No.	DATE	AMENDMENT DETAILS	IDENTIFIED BY

Distribution:

(Hard copy of the manual)

Control Copy No.	Issued To	
	Department	Designation
1.		
2.		
3.		
4.		
5.		

Softcopy of the manual is available on intranet: *site address*

PREAMBLE

This Quality Manual prescribes various procedures and formats for effective implementation of Quality Management system of APGENCO;

1) **Procedure P-01 : Pre-Award Quality Assurance Activities:**

   This procedure aims to define processes which are required to plan for effective management of quality control during execution of a contract. It involves:

   a) Finalization of Technical Specifications.
   b) Evaluation of the Bids received.
   c) Post bid discussions with the Bidder to resolve various issues in his Bid and to make post bid tie-ups/ agreements regarding execution of various Quality requirements of the contract.

2) **Procedure P-02 – Post Award Quality Assurance Activities:**

   This procedure defines all QA&I activities involved in effective implementation and management of quality during execution after the award of a contract. It refer to QMS processes like Sub-Vendor assessment and approval, Review and approval of Quality Plans, Inspection/ testing and issue of CHP reports, Issue and control of MDCC & Handling of Non-conformities etc.

3) **Procedure P-03 – List of Controlled Documents & Records:**

   Documentation is key to an effective QMS. Document control including regular review of QMS manual is an important activity for an effective system. This procedure defines process involved in QMS manual review/approval and contract documents which are to be controlled and the record keeping.

4) **Procedure P-04 – Sub-Supplier (Sub-contractor) Assessment & Approval:**

   Sub-supplier (sub-contractor) is an important link in ensuring quality of supplies to project sites. All major item manufacturers should be assessed by trained and experienced executives. This will help in building knowledge base of APGENCO executives as knowledge of manufacturing processes is required to prepare effective

quality plans. The procedure also provides for continuous evaluation of Sub vendor performance for effective implementation of Quality goals.

5) **Procedure P-05 – Review and Approval of Quality Plans:**

This procedure deals with the activities involved in receipt of Manufacturing Quality Plans and Field Quality Plans along with the general guidelines for preparing an effective MQP and FQP. The procedure also defines the authorization levels for different categories of checks in case of Field Quality Plans to ensure smooth functioning at Erection Sites.

6) **Procedure P-06 – Inspection, Testing and Issue of CHP Reports:**

This procedure deals with the activities involved in the inspection of various power plant equipment in line with the agreed Quality Plans and arriving at informed decisions. This procedure also deals with the various possible outcomes of inspection and action responsibility center. The procedure includes the formats for achieving all the aspects to be covered during inspection.

7) **Procedure P-07 – Issue and Control of Material Despatch Clearance Certificate (MDCC):**

This procedure deals with the activities involved in issue of material clearance to a contractor, thereby controlling the various payments linked with supply of equipment identified in the contract. The procedure also provides for issue of conditional MDCC to the contractor which are issued subject to fulfilling certain defined conditions, before full payments.

8) **Procedure P-08 – Handling of Non-conformities:**

This procedure deals with the activities involved in dispositioning/ handling / disposing off of various non-conformities encountered during the execution of the contract and their possible outcomes. The procedure also provides for monitoring of various non-conformities in a contract which serve as feedback in the Quality Management System.

9) **Procedure P-09 – Support to and Interaction with Sites.**

This procedure deals with the activities involved in providing structured support to the Field Quality Assurance set up for meeting the overall target of the Quality Management System. The procedure provides for continuous interaction between Corporate Centre and Field Units on the matter of quality and provides for quick resolution of various issues cropping up during and after the execution of a project. This also provides for feedback in the Quality Management System.

10) **Procedure P-10 – Monitoring and Inspection Calls and Status Reporting:**

This procedure deals with the activities involved in monitoring of supplies from various sources to the plant site and to identify the bottleneck areas in order to take actions for smooth execution of the project. This procedure provides for proper planning and prioritizing various inspection calls for achieving optimum actions to achieve the plant.

11) **Procedure P-11 – Standardization Activities:**

This procedure deals with the activities involved in using the standardization as an efficiency improving tool in Quality Management System. The repeated Quality Plans are to be standardized to reduce the response time of QA&I team in a contract. The Reference Quality Plans and Standard Quality Plans are extension of Procedure P-05 except that these are applied to a specific contract after their finalization with mutual consent with the contractor.

12) **Procedure P-12 – Quality System Audits:**

This procedure deals with the activities involved in conducting Quality System Audits at manufacturer works or project sites in order to ensure the compliance of various Quality Management tools in action thereby ensuring adherence to established quality practices in all places affecting the power project. The procedure also deals with the possible outcomes of the audit and the mechanism for their satisfactory resolution thereby acting as feedback of the Quality Management System.

QMS STRATEGY

A strategy is the roadmap to a target destination. Therefore it becomes imperative to define the target before a strategy is prepared. The purpose (target) of implementing a Quality Management System (QMS) for a utility is to reasonably assure compliance to Technical requirements mentioned in the contract for Equipment and Services rendered by Contractors/ Suppliers.

(Disclaimer: No QMS can ensure/guarantee defect free Equipment/ Services. Defect free Equipment requires a high level of standardization and a mature market of Suppliers. Presently this is available only in case of very high technology and capital equipment in the country.)

QMS is designed based on two basic principles:

1) *PDCA cycle (also known as Deming cycle or Shewhart cycle):* ***Plan*** *–* ***Do*** *–* ***Check*** *–* ***Act*** *cycle: Plan (design a process to meet objectives), Do (implement the designed process); Check (collect data to find out whether objectives are being met or not); Act (analyze the data and decide if process is to be redesigned) followed by improvements in next cycle,*
2) *A System is a chain of interlinked processes and a chain is only as strong as its weakest link.*

These principles are also used in designing of ISO: 9001 &ISO: 9004 standards (international standards on Quality Management System).

The strategy:

1. QMS implementation should start with defining specific time bound targets (objectives).
2. Resources required for effective implementation of QMS are:
   a. Human resource with following skill sets (working experience and knowledge of manufacturing processes):
      i. Electrical engineers with working experience and knowledge of manufacturing processes of: Generator, Large EHV Transformer & Reactors, Power Transformers (Auxiliary/ Service/ Dry type), HT/ LT Motor, EHV Switchyard, MV/LT Switchgear, EHV/ MV/ LT & Instrumentation Cables etc.

ii. Mechanical engineers with working experience and knowledge of manufacturing processes of**:** Turbine, Boiler, Pumps, Compressors, Piping, Material Handling (Coal Handling, Ash Handling), Water Treatment Plants etc.

iii. Engineers with specialized knowledge of Metallurgy, NDT & Welding processes.

iv. Civil engineers with working experience and design knowledge of**:** Foundation, Piling, Structures, Dams, Spill Way, Penstock, Ash Dyke, CW System, Cooling Towers, Chimney etc.

v. Instrumentation engineers with working experience and design knowledge of**:** DDCMIS, PLC, Primary and Secondary Instruments, UPS, Battery, Battery Charger, PAS, CCTV, Vibration Monitoring System, Continuous Emission Monitoring System, Ambient air quality system etc.

3. A core group of Engineers (Panel of Engineers) is required to be formed at the corporate level having above skill sets. Panel of engineers should be in constant interaction with Equipment & System Design engineering, Inspection, Field Quality, Erection group of engineers and Manufacturers. This panel of engineers is required to be formed with appropriate skills and experience in power plant technology, to formulate the standard specifications of different power plant equipment/ systems/packages. These Standard specification will be based on Technical requirements, National/ International standards/ Good Engineering practices and Good Manufacturing practices of quality conscious Manufacturers. These standard specifications should be reviewed and improved based on feedback from Contractors/ Suppliers/ Manufacturers/ Inspection / Erection & Field quality. The Standard Technical specifications should be stored in common location, accessible to all concerned.
4. Visit to manufacturing works during vendor approval process will help QA&I engineers to understand and build knowledge base in manufacturing technology of various equipment.
5. Various committees formed by APGENCO for dealing with various contractual matters (like finalization of Technical Specifications, Award of contract, Approvals prior to and after the contract etc.) should have a member for QA&I department for effective implementation of Quality Management System.

6. A knowledge management at the corporate level should be in place to capture the expertise of panel of engineers so that a knowledge base is available for all in APGENCO.

Pre-Award Quality Assurance Activities

1) **PURPOSE:** To provide guidelines for uniform approach towards various pre-award activities of the department.

2) **SCOPE:** This document covers following Quality Assurance activities.

   a. Preparation and finalization of tender specification with respect to Quality Assurance, Testing and Inspection requirements.

   b. Evaluation of bids on QA & Inspection aspects.

   c. Pre Award tie-ups on Quality Assurance & Inspection aspects with the bidder.

3) **DEFINITIONS:** Vocabulary as given in the Quality Management System Manual.

4) REFERENCES:

   a. Post award Quality Assurance & Inspection activities (Doc. No.: QMS-P-02)

   b. Sub-Supplier/ Sub-Contractor/ Sub-Vendor Assessment & Approval (Doc. No.: QMS-P-04)

   c. Review and Approval of Quality Plans (Doc. No.: QMS-P-05)

5) **Preparation and Finalization of Technical Specifications:**

   a. Input:

      i. Engineering specification of the Package.

      ii. National/ International Standards.

      iii. Industry Practices and Good Engineering Practices.

      iv. Past feedback from Inspection, Projects and other relevant sources.

   b. Resources:

      i. Respective QA Engineer, interacting with other Engineers of QA group.

      ii. Technical Library.

      iii. Knowledge Management System, if any.

c. **Process:**

i. Respective QA group will prepare the standard QA&I specification for the corresponding chapters of Engineering Specifications. Standard QA&I specification chapters will be put up to Head (QA&I) for approval. After approval standard QA&I specification chapters will be maintained in a common location (preferably a computer or a server) for access by all QA&I executives.

ii. Respective QA group will review standard QA&I specification for the respective Technical Specification with input from Engineering Specifications received & other inputs. Final QA&I specifications prepared will be put up for approval in prescribed format no. QMS-P-01/F1.

iii. The QA Specification shall include general and specific Technical requirements with respect to Quality Assurance, Testing and Inspection including Quality System requirement for Supplier and sub-Supplier.

iv. The respective QA Group Head will be the custodian of the finalized QA specification.

d. Control:

i. The QA Specification of Package/Project shall be put up for review and approval of Head QA&I.

ii. The changes in the specification, because of changes in the Engineering Specifications or for any other reasons, shall be made as per above& revisions recorded for future reference.

e. **Output:** Approved QA Specifications corresponding to Engineering specifications.

f. **Records:** The respective QA Group Head will maintain a file containing correspondence and approved copy of finalized QA Specification along with reviews and approvals at various levels.

6) Evaluation of Bid Offers:

a. Input:

i. Bid Offers of various bidders and Technical bid documents.

ii. Experience and performance feedback of earlier projects.

iii. Declared deviations in the bids.

Pre-award Quality Assurance Activities

iv. Undeclared deviations (any other deviation not covered in declared deviations) in the bid.

v. Proposed sub-suppliers in the bids.

vi. Proposed System suppliers (in case of turnkey packages) in the bid.

vii. List of sub-suppliers/ system suppliers with whom owner has prior experience & their acceptance status or otherwise.

b. Resources:

i. Respective QA Engineer, interacting with other Engineers of QA group.

ii. Knowledge Management System, if any.

c. Process:

i. Respective QA group will prepare the bid evaluation report in prescribed format no. QMS-P-01/F2, for various bid offers with respect to QA&I aspects.

ii. The deviations taken in the bid offer pertaining to Quality Assurance, testing and inspection aspect shall be evaluated in respect of requirements indicated in the **Tender Specifications** and shall be classified as follows:

iii. Acceptable

iv. Not acceptable – To be withdrawn by Bidder.

v. Any other, not covered in the two classes above – to be discussed and resolved during post bid discussions.

vi. Any deviation having significant commercial impact shall be suitably evaluated for commercial implication.

vii. Wherever considered essential, assessment of the bidder(s) shall be done. Generally whenever the owner does not have any prior experience with the bidder, for the specified scope of package, then bidder assessment may be recommended to the Tender Committee.

d. Control: The bid evaluation report shall be put up for review and approval of competent authority**.**

e. **Output:** Approved bid evaluation reports of the bids received.

f. **Records:** Being a confidential document, the approved bid evaluation reports of QA shall be handed over to the Technical Member of the Tender Committee.

Pre-award Quality Assurance Activities

7) Post Bid Tie-ups:

a. Inputs:

i. Formal request from Contract Member of Tender Committee.

ii. Bid offer of successful bidder.

iii. Evaluation Report.

iv. Proposed sub-suppliers in the bids.

v. Proposed System suppliers (in case of turnkey packages) in the bid.

vi. List of sub-suppliers/ system suppliers with whom owner has prior experience & their acceptance status or otherwise.

vii. Experience and performance feedback of earlier projects.

b. Resources:

i. Respective QA Engineer, interacting with other Engineers of QA group.

ii. Knowledge Management System, if any.

c. Process:

i. The QA Engineer including engineers of other disciplines/groups in QA, shall discuss with successful bidder and following shall be tied up during post bid/pre-award discussions:

ii. Resolution of deviations (Declared as well as undeclared deviation).

iii. Tie-ups for corrective measures for known deficiencies of bidder/system supplier and other specific issues as per bid-evaluation report.

iv. A comprehensive list of items, requiring Sub-supplier approval from APGENCO, on Format No.:QMS-P-01/F3,and the names of proposed sub-suppliers by the bidder, against each item, shall be drawn for the entire scope of the contract, based on the criticality of items and Quality Assurance systems of bidder with respect to their sub-supplier control management. Self-manufactured items of the bidder, shall also be included in the above list. Each proposal in the agreed Sub-supplier list shall be categorized as below;

1. **Acceptable**, to be identified with letter **'A'** in the list. Conditions of approval, if any, against any proposed sub-supplier, is to be indicated in the remarks.
2. **Details required** for APGENCO review and consideration, to be identified with letters **'DR'** in the list.

3. No specific sub-supplier approval by APGENCO is required. Proposals are to be selected by bidder based on his own sub-supplier assessment and approval system. To be identified with letters **'NOTED'** in the list.

v. A comprehensive list of items, requiring Quality Plan approval from APGENCO, on Format No.:QMS-P-01/F3, shall be drawn for the entire scope of the contract, based on criticality of items, bidder's/sub-supplier's Quality Control set-up, system and approach. Self-manufactured items of the bidder, shall also be included in the above list. Schedule of submission and finalization of Quality Plan shall also be finalized at this stage. The type of control measures for all the items/equipment, including spares, shall be categorized as below;

1. **Cat-I:**Quality Plan Approval by APGENCO& Physical Inspection by APGENCO is envisaged. Item shall be accepted based on the Inspection.
2. **Cat-II:**Quality Plan Approval by APGENCO is envisaged but Physical inspection by APGENCO is not envisaged. Item shall be accepted based on the review of reports, as per approved QP requirements.
3. **Cat-III:**Quality Plan Approval by APGENCO is not envisaged. The controls in this case shall be applicable as per bidder's own Quality Assurance System. Certificate of Compliance (COC) on Format No.: QMS-P-06/F2 from the Main supplier shall be reviewed by APGENCO for acceptance of the Item.

vi. Tentative schedule of freezing Quality Plan submission and approval schedule and the sub-suppliers list. However, on finalization of L2 network, these schedules shall be fine-tuned and mutually agreed.

vii. Non-conformance reporting and dis-positioning.

viii. Control measure for Mandatory Spares.

d. **Control:** HOD QA will approve the final list. Any items subsequently identified during 'Detailed Engineering' as well as in 'Billing Break-UP (BBU)' shall be dealt with, in accordance with above.

e. **Output:** QA Engineer shall sign on the MOM held with the successful bidder including the agreed list of items requiring Quality Plan & Sub-supplier approval to Engineering Department.

f. **Records:** QA Engineer shall maintain the correspondence and MOM held with successful bidder including agreed list of Items requiring Quality Plan & Sub-supplier approval.

8) ASSOCIATED DOCUMENTS:

a. Format No.: QMS-P-01/F1QA Specification Approval Form.
b. Format No.: QMS-P-01/F2 Bid Evaluation Report
c. Format No.: QMS-P-01/F3 List of items requiring Quality Plan & Sub-Supplier approval.

Technical Specification Approval Form

TITLE OF DOCUMENT & NO. :

REV :

PACKAGE NAME :

PROJECT :

BASE DOCUMENT/REFERENCE

DOCUMENT NO. :

REASON FOR ADOPTION/CHANGE :

VERIFICATION/VALIDATION :

- Similar specification used in earlier Project (s)
- No adverse feedback received.
- Any other (specify)

DETAILS OF SUPPORTING DOCUMENTS, IF ANY

	PREPARED BY	REVIEWED BY	APPROVED BY
SIGN :			
DATE :			
NAME:			
DESIGN:			

Bid Evaluation Report

PROJECT : BIDDER :

PACKAGE :

1. BRIEF DESCRIPTION OF BIDDER INCLUDING PAST EXPERIENCE WITH APGENCO

2. TECHNICAL DEVIATIONS

   a) DECLARED DEVIATION

   b) UNDECLARED DEVIATION

3. COST IMPLICATION

4. QUALITY MANAGEMENT SYSTEM

4.1 PROPOSED QA MANAGEMENT PROGRAMME (FOR PROCUREMENT, INHOUSE MANUFACTURING & FIELD ACTIVITY)

4.2 SUB-SUPPLIER PROPOSALS

4.3 QUALITY DOCUMENTS ENCLOSED

   a) QUALITY MANUAL

   b) ISO-9001 ACREDITATION

   c) QUALITY PLANS & REFERENCE DOCUMENTS

   d) ANY OTHER DOCUMENT

Bid Evaluation Report

5. CONCLUSION

PREPARED BY REVIEWED BY APPROVED BY

SIGN :

DATE :

NAME:

DESIGN:

List of Items requiring Quality Plans & Sub-Supplier Approval

Sl.	Item	QP/ Insp. Cat.	QP No.	QP Submission Schedule	QP approval schedule	Proposed Sub-Supplier	Place	Approval status	Details submission schedule	Remarks

List of Items requiring Quality Plans & Sub-Supplier Approval

LEGENDS

1. **SYSTEM SUPPLIER/ SUB-SUPPLIER APPROVAL STATUS CATEGORY (SHALL BE FILLED BY APGENCO)**

A – For these items proposed vendor is acceptable to APGENCO. To be indicated with letter "A" in the list alongwith the condition of approval, if any.

DR – For these items "Details required" for APGENCO review. To be identified with letter "DR" in the list.

NOTED – For these items vendors are approved by Main Supplier and accepted by APGENCO without specific vendor approval from APGENCO. To be identified with "NOTED.'

2. **QP/INSPN CATEGORY**:

CAT-I : For these items the Quality Plans are approved by APGENCO and the final acceptance will be on physical inspection witness by APGENCO/Authorized Inspection agency.

CAT-II : For these items the Quality Plans approved by APGENCO. However no physical inspection shall be done by APGENCO. The final acceptance by APGENCO shall be on the basis of review of documents as per approved QP.

CAT-III : For these items Main Supplier approves the Quality Plans. The final acceptance by APGENCO shall be on the basis certificate of conformance by the main supplier.

UNITS/WORKS : Place of manufacturing Place of Main Supplier of multi units/works.

Post-Award Quality Assurance Activities

1) **PURPOSE:** To provide a systematic and uniform approach towards various post award activities of the department.
2) **SCOPE:** The scope of this document covers all QA&I activities after issue of LOA.
3) **DEFINITION:** Vocabulary as given in the Quality Management System Manual.
4) **REFERENCE:**
   a. Pre-award QA activities Doc. No. QMS-P-01
   b. List of Controlled Document & Records Doc. No. QMS-P-03
5) **PROCESS:**
   a. **Inputs:**
      i. Tech Spec with amendments, Pre award/Post bid MOM, and LOA.
      ii. Manufacturing Quality Plan, Field Quality Plan.
      iii. Details of 'DR' category manufacturers.
      iv. Inspection Call, Non-compliance during manufacturing/ testing.
      v. Queries, feedback and complaints from customer.
   b. **Resources:**
      i. QA Groups
      ii. QA &I Data Bank
      iii. International/National Standards, Codes as well as manufacturing practices.
   c. **Process:**
      i. QA Process for Quality Plan approval is detailed out in Doc. No. QMS-P-05.
      ii. QA Process for Sub-Supplier approval is detailed out in Doc. No. QMS-P-04.
      iii. QA Process for Dis-positioning of Non-Conformities is detailed out in Doc. No. QMS-P-08.
      iv. QA Process for Inspection, Testing & CHP issue is detailed out in Doc. No. QMS-P-06.
      v. QA Process for Issue of MDCC is detailed out in Doc. No. QMS-P-07.
6) **Controls:**
   a. Time schedule as per L-2 network.
   b. Review & Approval/Acceptance of documents.
   c. Issue of CHP & MDCC of materials.

7) **Output:** Documents/ records as per different applicable procedures of various QA &I activities.
8) **Records:** Maintenance of records shall be as per procedure (Doc. No.: QMS-P-03).
9) **Associated Documents:** Format No QS-01-QAI-P02/F1 -Status of item requiring QP & Sub-Supplier approval.

Status of Items requiring QP approval

STATUS OF ITEMS REQUIRING QPAPPROVAL

Project: _____ Package: _____ Contractor: _____ Contract No.: _____

Sl.	Item/ Sub-Supplier Name	**QP/ Insp. Cat.**	**QP Submission schedule.**	**QP Approval schedule**	**Date of submission**	**Date of Comment**	**Status Code III/II/I**	**Remarks**

Documents & RecordsControl

1) **PURPOSE:** Documents & records, which are required to be controlled in order to ensure effective planning, operation and control of processes and products of QA&I department, are identified and listed by this procedure.
2) **SCOPE:** Documents & records generated by QA &I department.
3) **DEFINITION:** Vocabulary as given in the Quality Management System Manual.
4) **PROCESS:**

a. Input:

i. Existing processes and products of QA&I department.
ii. New processes and products identified by QA&I department.
iii. Record notes of Management review meetings that identify new control measures or products for QA&I department.

b. Resources:

i. Resources for new products & processes will be identified by Head (QA & I)
ii. Resources for existing products & processes are identified at Appendix A& B.

c. Process:

i. QMS Manual approval process:

1. QMS manual issue 1 Rev 0 will be approved by MD. After approval QA&I manual will be issued by the Management Representative (MR) appointed by MD. MD will also authorize a Director for approval of further revisions to QMS manual.
2. Further issues and revision to QMS manual will be reviewed by MR and put up to Director for approval. MR will issue revisions after approval.
3. QMS Manual Review Process:
4. All executives of APGENCO may suggest changes for improvements and give their feedback on QMS manual. The suggestions should indicate the relevant clause number and proposed change with the reason for change.
5. All the suggestions will be addressed to their respective HOD. HODs will forward the suggestions to MR.
6. The review committee, appointed by MR, will review the Manual once every year to assess its continuity, adequacy and conformity to APGENCO requirements. The review committee will also interact with suggesting departments / individuals, if required. The review committee will present their recommendations to MR.
7. MR will put up the revisions to Director for approval. After approval revised QMS manual will be issued by MR. In case Manual is reviewed and adopted without any revision, then

record of such review will be maintained as appendix 3 (i.e. Record of review of manual).

ii. Identification of revisions:

1. The revised text of Manual will be highlighted with color. In the subsequent revision of the manual, earlier changes will be normalized and only the latest changes will be highlighted with color.
2. Revisions are identified numerically e.g. 0, 1 , 2 ...n. With revision of any section, the manual gets a new revision number & date. The new revision number & date is indicated in "header" of the manual.
3. When substantial changes are made in Manual the whole manual is reissued. The issues are identified by roman numerals e.g. I, II etc. along with date of issue. Each new issue supersedes all previous issues and revisions of the manual. The new issue of the manual will start with revision zero.
4. The details of revision are given in "Details of Revision" section of this manual.
5. Any change in the preface and appendices will not be treated as a change or revision in the manual. Revision status of preface and appendices will be identified by its date.

iii. Distribution of QA&I manual:

1. Latest version of QA&I manual will be hosted on intranet / ERP.
2. Revisions and reissues of the hardcopy of QA&I Manual are distributed as per Distribution List.
3. Old revision status and obsolete documents (electronically stamped as obsolete) will be maintained at a common folder on the intranet for reference only.

iv. Control:

1. List of documents & records that are required to be controlled will be approved by the team assigned by Head (QA & I).

5) **Output:** List of controlled documents and controlled records including documents and records. This List will be circulated to all executives of QA&I department for compliance.
6) **Records:** Concerned executives will maintain the controlled documents and controlled records as identified at the Appendix A& B respectively, for each Project/ Package.
7) **ASSOCIATED DOCUMENTS:** Nil

APPENDIX -A

List of Controlled documents

Sl.	Documents	Maintained by	Distribution	No of copies	Remarks
1.	QA&I Manual	MR	As per manual		
2.	QA portion of Technical Specification including record of revisions.	QA Group Head	Engineering Department.	1	To be included in the overall Tech. Specs.
3.	General Technical Conditions (QA & I portion) of Contract.	HOD QA	Engineering Department.	1	To be included in the overall Tech. Specs.
4.	List of items requiring QP approval & sub-supplier approval.	QA Group Head	HOD QA	1	
5.	QA & I Departmental Quality Manual.	HOD QA	As per distribution list of document	1	

Appendix – B

List Of Controlled Records

Sl.	Records	Maintained by	Distribution	No. of Copies	Remarks
1	Pre Award MOM for QA & I activities including list of item requiring QP approval & sub-supplier approval for specific pkg.	Package Engineer	Contracts Deptt.	1	To be included in LOA
2	Manufacturing Quality Plans	Package Engineer	Supplier, Inspection	1 1	
3	WPS (As applicable)	Package Engineer	Supplier, Inspection	1 1	
4	Field Quality Plans	Package Engineer	Supplier, Site	1 1	
5	Field Welding Schedules	Package Engineer	Supplier, Site	1 1	
6	Status of Sub-supplier approval & QP approval for package	Package Engineer	HEAD QA	1	
7	Non Conformity Reports identified during manufacturing & final Inspection/ Field Activities	Inspection/ site	Supplier, Package Engineer,	1 1	
8	CHP & MDCC	Inspection	Supplier	2	
9	List of conditional MDCC	Inspection	HOD QA	1	
10	Quality System Audit Reports	Package Engineer	Auditee HOD (QA) Sr. Mgt. Members	1 1 1 each	

Procedure no. QMS-P-04 Rev. 0

Sub-Supplier (Sub-Contractor) Assessment & Approval

1) **PURPOSE:** To provide guidelines for uniform approach in the process of Sub-Supplier's assessment and approval.
2) **SCOPE:** This document covers the following:
    a. Assessment and approval of Sub-Suppliers for Item, Equipment, System & Service proposed by Supplier of the contract.
    b. Assessment and approval of Sub-Supplier as considered appropriate by Head (QA&I) for the cases where development of alternate Sub-Supplier is required or for any request from Site.

    Note:
    a. Assessment and approval of Sub-Supplier pertains to the specific works location of Sub-Supplier.
    b. This does not cover assessment and approval of supplier for the purpose of award of Main Contract.

3) DEFINITIONS:
    a. **Supplier:** An organization referred as Main-Supplier or Supplier or Contractor, who executes the contract.
    b. **Sub-Supplier:** An organization who manufactures and supplies the System or Equipment or Item to the Supplier. It also covers manufacturers who manufacture and supplies the Equipment or its Components or Items to the Sub-Suppliers, to complete the System Supply.
    c. Other definitions as per Vocabulary given in the Quality Management System Manual.

4) REFERENCES:
    a. Procedure No. QMS-P-01 Pre-award Quality Assurance Activities.
    b. Procedure No. QMS-P-02 Post-award Quality Assurance & Inspection Activities.

5) **PROCESS:** The process of approval consists of following SEVEN (7) activities, each described as below;
    a. <u>Review of Sub-Suppliers proposal and Sub-Suppliers details:</u>
        i. Input:
            1. List of Sub-Supplier proposals agreed in LOA or Sub-Supplier proposals in line with LOA agreements.
            2. Main Supplier's Evaluation Report in Format No.: QMS-P-04/F1.

3. Sub-Supplier's previous assessment report (Vendor's file).
4. Sub-Supplier's details in format No.: QMS-P-04/F2.
5. End user feedback.
6. Proven-ness criteria or Sub-Qualifying Requirements for the Equipment, if any.

ii. Resource:

1. QA Engineer.
2. Technical Specifications.
3. Technical Library.
4. Vendor Data Bank.

iii. Process:

1. QA Engineer shall review the proposal and details of the Sub-Supplier. In case of incomplete details,hewill make all efforts to obtain compete details.
2. QA Engineer shall review the proposal and submitted details with respect to the Technical Specification requirements & QA Set-up of Sub-Supplier.
3. In case of non-acceptance of Sub-Supplier, based on inadequate/unsatisfactory details of Sub-Suppliers, concerned QA Engineer shall recommend for rejection, in format No. QMS-P-04/F3 and forward the same for concurrence of Head (QA&I) through Group Head.
4. In case of Sub-Supplier details are found complete and satisfactory, QA Engineer shall recommend the case for further processing in format No. QMS-P-04/F3 and recommend the methodology of assessment based on the criticality of the Item, Sub-Supplier's details & Sub-Supplier's categorization as per Appendix-A, to Group Head.

iv. **Control:**

1. Recommendations shall be completed within FIVE (5) working days after availability of adequate details of the proposal.
2. QA Engineer shall monitor the proposal up to the final dispositioning.
3. Review of details and proposal shall be as per the category and methodology of assessment as per Appendix-A.
4. Requirements of contract & technical specification for particular items shall be taken into account while considering the Sub-Supplier assessment.

v. **Output & Record:** QA Engineer shall record the details of his review and recommendations in the format QMS-P-04/F3.

b. **Appointment of Visiting Team & Screening Committee:**

i. **Input:** Format No. QMS-P-04/F3 along with Sub-Supplier file containing Sub-Supplier details and supplier's assessment report.

ii. **Process:**

1. In case of recommendation for assessment of Sub-Supplier is by visit to the works, Group Head of respective discipline and HOD QA shall together propose one member each, for both the Visiting team and Screening committee and forward the proposal to Head (QA&I) for concurrence.
2. In case of recommendation for assessment of Sub-Supplier is by review of submitted documents, QA Engineer shall be nominated as Assessing Engineer by Group Head of respective discipline. Nomination of screening committee shall not be required in this case and the role of screening shall be performed by Group Head. The proposal will then be taken up for assessment.

iii. **Control:** Nomination and concurrence of Visiting Team and Screening Committee members shall be accorded within three (3) working days. Group Head/ QA Engineer shall ensure completion of above activity within stipulated time.

iv. **Output:** Nomination and concurrence of Visiting Team and Screening Committee members or Assessing Engineer.

v. **Record:** Format No. QS-01-QAI-P-04/F3.

c. **Assessment of Sub-Supplier:**

i. **Input:**

1. Sub-Supplier file consisting of Sub-Supplier's details and Contractor's assessment report.
2. Discussion between Visiting Team & Screening Committee and QA Engineer, prior to visit, for salient aspects to be verified during visit, in case of assessment by visit. Brief deliberations of this meeting shall be recorded in Format No. : QMS-P-04/F3.
3. Format No. QS-01-QAI-P-04/F3.
4. Technical specifications/ Data sheet/ Catalogue/ GA Drawing of Items, as available, shall be obtained by Visiting Team.

ii. **Resources:** Visiting Team/ QA Engineer.

iii. Process:

1. Representative of Supplier shall preferably accompany the Visiting Team, to carry out a joint assessment.
2. QA Engineer shall co-ordinate with Supplier & Sub-Supplier for visit to the works of Sub-Supplier.
3. Visiting Team shall make visit to the works of Sub-Supplier and if necessary to the works of manufacturer who are supplying critical component to Sub-Supplier and shall record their critical observations.
4. The Visiting Engineers shall verify the Manufacturing & Testing facilities, Quality Management System, Experience etc., as observed during assessment and compare the same w.r.t details declared by Sub-Supplier in format No.QMS-P-04/F2. In case of any discrepancies, it shall be clearly highlighted in special observations along with clarifications of Sub-Supplier. Visiting Engineers shall rate the capability of the Sub-Supplier w.r.t. each attribute indicated in format No. QMS-P-04/F4. While rating the capability of Sub-Supplier, Visiting Engineer shall preferably quote the examples in support of his rating. Visiting Engineers shall make joint records of observation during the visit with Main-supplier representative and bring out variations w.r.t. details furnished by Sub-Supplier.
5. For any exclusion of attribute, justification for the same shall be clearly brought out in the special observations.
6. The Visiting Team members shall jointly prepare the report.
7. While making the recommendation of the Sub-Supplier, Visiting Engineers shall follow the following guidelines:
8. In case of difference of opinion between the two members of the Visiting Team, both members shall submit their report separately. Respective Group Heads shall have the discretion to take suitable decision on the basis of average points or recommend for re-visit by different visiting team, concurred by Head(QA&I).
9. Sub-Supplier shall be recommended for approval only if Sub-Supplier receives minimum 60% marks in each group of attributes.

10. In case Sub-Supplier being recommended for conditional approval, Visiting Engineers shall obtain acceptance of the conditions, in writing, from Supplier and Sub-Supplier.
11. In case of Paper assessment by Assessing Engineer, visit to the works of the Sub-Supplier is not envisaged. Assessment is to be carried out by Assessing Engineer based on review of documents available in Sub-Supplier's details and other inputs, in line with above.

iv. **Control:** The assessment by the Visiting Engineers/ Assessing Engineer, shall be completed within 15 days of concurrence of nomination.

v. **Output:** The report of the Visiting Team/ Assessing Engineer, shall be prepared in format Nos. QMS-P-04/F4 & F5 and shall be handed over to Screening Committee, within a week.

vi. **Record:** Assessment report in Format Nos. QMS-P-04/F4 & QMS-P-04/F5.

d. **Review by Screening Committee:**

i. Input:

1. Sub-Supplier file along with assessment report of Visiting Team/ Assessing Engineer.
2. Other approved Sub-Suppliers and their Sub-Supplier file, for similar items.
3. Technical specifications and Contract requirements.
4. Format No. QMS-P-04/F5.

ii. Resources:

1. Screening Committee.
2. Sub-Supplier Data Bank.

iii. Process:

1. Screening committee is to scan the proposal, Sub-Supplier details, Visiting Engineer's report and recommendation for completeness and conformance to this procedure.
2. In case of difference of opinion with the Visiting Team regarding recommendations, Screening Committee may discuss the case with Sub-Supplier and Supplier.
3. Compare the complete proposal and recommendations with other approved Sub-Suppliers for similar items or equipment or services or systems to ensure the uniformity of recommendations.

4. Review the recommendations of Visiting Engineer and conditions of approval, if any. Screening Committee shall mention its view on the viability of conditions and their effect on project schedule. Screening Committee shall also mention any discrepancy in the Visiting Team's report with respect to compliance to this procedure.

iv. **Control:** Screening Committee shall forward their report/ recommendations in Format no. QMS-P-04/F5, to Group Head of respective discipline, within five (5) working days of receiving the Visiting Team recommendations.

v. **Output:** Screening Committee recommendations.

vi. **Record:** Format No. QMS-P-04/F5.

e. <u>Review of HOD (Discipline):</u>

i. Input:
Sub-Supplier file along with all above records.

ii. Resource:
HOD of the discipline.

iii. Process:
HOD shall review the recommendations of Screening Committee and in case of major difference in recommendations of Screening Committee with Visiting Engineer recommendations or among the Visiting Engineers, he shall jointly discuss the details with Visiting and Screening Committee members and make his recommendations to Head (QA&I).

iv. Control:
Review by HOD (Discipline) shall be completed within TWO (2) working days.

v. Output/Record:
HOD shall make his recommendation in format No.: QMS-P-04/F5.

f. <u>Final Dispositioning by Head (QA&I):</u>

i. **Input:** Sub-Supplier file along with above records duly completed and signed by the concerned.

ii. **Resource:** Head (QA&I).

iii. Process:

1. Head (QA&I) shall review the recommendations for their completeness with respect to Supplier's proposal and future requirements. Visiting Team shall provide the clarifications to Head (QA&I) for any queries.

2. Head (QA&I), based on Visiting Engineer's assessment report, observations of Screening Committee and recommendations of HOD of respective discipline, shall record his approval or otherwise.

iv. Control:

1. Head (QA&I)'s dispositioning shall be communicated to the Supplier in writing.
2. Draft letter shall preferably be put up along with the file forwarded to Head (QA&I) for approval.

v. Output and Record:

1. Head (QA&I) approval or otherwise, on format No. QMS-P-04/F5.
2. A copy of the letter written to the Main Supplier on his proposal of Sub-Supplier along with the Sub-Supplier file shall be maintained in Sub-Supplier data bank for record. QA Engineer shall ensure the completion of above activities.

g. <u>Holiday List of Sub-Suppliers:</u>

i. Input and Resources:

1. Feedback from Site.
2. Feedback from Inspection.
3. Feedback from Supplier regarding supply schedule.
4. Feedback regarding use of unfair means by Sub-Supplier.
5. Any directive by Government/ Management.

ii. Process:

1. A Sub-Supplier may be put on Holiday list (Temporary suspension of approval) under certain circumstances for an initial period of one year. Consideration for putting the supplier on holiday list shall be based on following factors.
2. Repeated failures on the part of supplier to supply the product within Project schedule with recordable evidence of effect on Plant Commissioning Schedule.
3. Repeated occurrence of major non-conformances, attributable to similar causes.
4. Repeated failure at site, attributable to non-compliance during manufacturing and testing.
5. Any directive issued by Government or top management.
6. Use of unfair means by Sub-Supplier and supplier.
    a. Note: Repeated means minimum 3 such occasions.

7. In case of any of the reason(s) as above is established, QA Engineer shall initiate action in Format No. QMS-P-04/F6 for putting the supplier on Holiday list.

iii. **Control:** HOD of respective discipline will review the reasons before recommending to put the Sub-Supplier on Holiday List. Final decision for putting the supplier in Holiday List, rests with Head (QA&I).

iv. **Output and Record:** The decision shall be communicated directly to Sub-Supplier with a copy to Supplier, respective Inspection group, Engineering group, all sites and the Sub-Supplier Data bank.

6) ASSOCIATED DOCUMENTS:

a. FORMAT NO. QMS-P-04/F1 -Main Supplier Assessment report
b. FORMAT NO. QMS-P-04/F2 -Sub-Supplier Questionnaire
c. FORMAT NO. QMS-P-04/F3 -Recommendations for Sub-Supplier Assessment
d. FORMAT NO. QMS-P-04/F4 -Assessment Team Report
e. FORMAT NO. QMS-P-04/F5 -Sub-Supplier approval Card
f. FORMAT NO. QMS-P-04/F6 -Feedback on Sub-Supplier Performance

Appendix – A

Categorization Of Sub-Supplier & Methodology For Assessment

Cate-gory	Description	Methodology for Assessment
a.	Proposed sub-supplier has been previously assessed and approved without any conditions and records are available in the Sub-Supplier's file maintained	Acceptance shall be suitably communicated to supplier by QA Engineer during Pre-Award.
b.	Proposed Sub-Supplier has been previously assessed and approved subject to some conditions (Conditional approval) and records are available in the Sub-Supplier's file	QA Engineer shall obtain the feedback from the Supplier or Sub-Supplier on the conditions of approval. In case conditions are fulfilled by Sub-Supplier, QA engineer shall accord acceptance of Sub-Suppliers during Pre-Award itself or the Sub-Supplier shall be accepted with conditions.
c.	Proposed Sub-Supplier has been previously assessed and rejected and records are available in the Sub-Supplier's file	Any Supplier/ Sub-Supplier who has been assessed and rejected in past shall be re-assessed only after confirmation of satisfactory resolutions of reasons of rejection. However assessment can be taken up under special circumstances also, after due approval from Head QA&I.
d.	Proposed Sub-Supplier has been successfully supplying to APGENCO in the past but assessment and approval record is not available.	Sub-Supplier shall be identified as **DR*** in Pre-Award discussions/ minutes of meeting. QA engineer shall obtain Sub-Supplier details and put up the proposal for regularization and data updating in format No.: QMS-P-04/F5, during Post-Award.
f.	For extension of approval for higher rating of same product.	QA Engineer shall review the proposal along with the details of Sub-Supplier and obtain feedback from concerned agencies if required. QA Engineer shall initiate **Note-sheet** for

Appendix – A

Categorization Of Sub-Supplier & Methodology For Assessment

		recommending acceptance or rejection of the proposed Sub-Supplier to Head QA & I through HOD (Discipline).
g.	Proposed Sub-Supplier is for item/system for which Sub-QR is specified.	QA Engineer shall obtain the clearance from Tender Committee member before processing the case for assessment under any category listed herein.
h.	Sub-Supplier is proposed for job work like machining, fabrication, galvanizing, painting etc.	QA Engineer shall review the proposal alongwith the details of Sub-Supplier and obtain feedback from concerned agencies if required. QA Engineer shall initiate **Note-sheet** for recommending acceptance or rejection of the proposed Sub-Supplier to Head QA & I through HOD (Discipline).
i.	Change of Name/ Ownership of approved Supplier/ Sub-Supplier.	QA Engineer shall review the proposal alongwith details of Supplier/ Sub-Supplier and obtain feedback from concerned agencies if required. QA Engineer shall initiate **Note-sheet** for recommending acceptance or rejection of the proposed Sub-Supplier to Head QA&I through HOD (Discipline)
j.	Proposed Sub-Supplier does not fall in category (a) to (i) above. i.e. identified in **DR** category during Pre-Award/ MOM.	The following details shall be obtained from supplier for the purpose of assessment i) Supplier's Evaluation report in format no. QMS-P-04/F1 and recommendation of the proposed Sub-Supplier as per their own system of Sub-Supplier's assessment and approval, with categorical remark on Manufacturing and Testing facilities, Past Experience and Quality Management System of Sub-Supplier. ii) Complete Sub-Supplier details in format no.QMS-P-04/F2.

Main Supplier's Evaluation Report

(for proposed Sub-Supplier)

MAIN SUPPLIER **M/S.....**

PACKAGE & PROJECT **:**

EQUIPMENT / ITEM **:**

GENERAL INFORMATION

1. **PROPOSED SUB-SUPPLIER'S NAME & WORKS ADDRESS** **:**

2. **CONTACT PERSON** **:**
   TELEPHONE (LAND LINE/MOB.) **:**
   FAX **:**
   E-MAIL **:**

3. **BRIEF SPEC. OF EQUIPMENT ITEM/MODEL/TYPE /RANGE / CAPACITY:**

4. **REFERENCE LIST (EXTENSIVE EXPERIENCE IN THE PARTICULAR TYPE OF EQUIPMENT / ITEM)**

CUSTOMER/ LOCATION WITH ADDRESS AND CONTACT PERSON	TYPE , RATING & CAPACITY	DATE OF COMMISS-IONING.	NO. OF YRS. IN OPERA-TION	PERFORMANCE FEEDBACK

5. **RECOMMENDATIONS:**

NAME:_____DESIGN: _____SIGN.:_____

List of Encl. **Date:_____**

Sub-Supplier Questionnaire

(to be filled in by Sub-Supplier)

Approval Desired for Process/item (Rating/Size/Type):

_____

1. Name of Company (Sub-Supplier):
2. Address of Regd. Office:

_____ Tel_____

_____ Mobile_____

_____ e-mail_____

_____ Fax_____

3. Address of Factory/Works

_____ Tel_____

_____ Mobile_____

_____ e-mail_____

_____ Fax_____

Weekly off day

4. Branch/Liaison Office in Hyderabad:

_____ Tel_____

_____ Mobile_____

_____ e-mail_____

_____ Fax_____

Sub-Supplier Questionnaire

(to be filled in by Sub-Supplier)

Weekly off day **:**

5. Person(s) to be contacted

Place	Name(s)	Official Capacity	Telephone No(s)
Regd. Off.			
Factory			
Branch/ Liaison Off.			

6. Nature of Company : Proprietary/Partnership/Pvt. Ltd./Public Ltd.

Works Details**:**

7. Year of Factory Establishment :

8. Year of Commencement of Manufacture :

9. Total Area/Covered Area :

10. Electric Power-Connected Load :
Electric Power-Standby Load & System

11. Finance-Total Capital :
- Annual Turnover & profit For past three years
- Limit of Credit Facility : Available from the Banks

12. Do you have in-house Department for :
a) Design Yes/No
b) Research & Development Yes/No

Sub-Supplier Questionnaire

(to be filled in by Sub-Supplier)

c) Manufacturing/Production Yes/No

d) Quality control/Inspection Yes/No

e) Clearance from pollution deptt. Yes/No

13. Shift works per day One/Two/Three

14. Details regarding employees:

Division Status	Graduate		Diploma	Skilled	Un-Skilled	Remarks
	Technical	Non-Technical				
Production						
Quality Control						
Admn& other Supporting Activities						

15. Please enclose a copy of company's organisation chart (for the unit).

16. Trade Name of Product (if any) :

17. Manufacturing capacity details :

S. N.	Product	Licensed Capacity	Installed Capacity

18. Brief details of items manufactured :

Sl. No.	Item & Material	Description (Type/Size/Rating)	Annual Production for last Three years

Sub-Supplier Questionnaire

(to be filled in by Sub-Supplier)

			I	II	III

19. Details of foreign collaboration, if any:

Sl. No.	Product	Name & Address of Collaborator	Collaboration		
			Scope	Year	Valid upto

20. Have your product been type tested by any external agency? If so, give details

Sl. No.	Product	Test (Size, Type & Class)	Test Report No. & Date	Next Due Date

21. Indicate Approval/Certification by National/International standards/agencies applicable for the subject product.

Sub-Supplier Questionnaire

(to be filled in by Sub-Supplier)

Sl. No.	Product	Code/Standard	License No. & Date

22. Have you been approved by any third party/statutory agency? If so, indicate details and enclose copies of approval letters.

Sl. No.	Item/ Material	Description (Size, Type & Class)	Agency	Date of Approval	Next Due Date

23. Reference list (Experience in the particular type of equipment):

Sl. No.	Item/ Material	Type & Capacity	Customer (End User) with Address	Date of supply	Under Operation Since Year/ Month

Sub-Supplier Questionnaire

(to be filled in by Sub-Supplier)

24(a) Specific to process & product facilities:

Sl. No.	Description of machine	Capacity & Nos.	Location Shop	Make	Year of Mnfg.

24(b) Other/General facilities:

Sl. No.	Description of machine	Capacity & Nos.	Location Shop	Make	Year of Mfg.
1	Material Handling Mobile Crane Fork Lift Over Head Cranes				
2	Metal Cutting & Bending				

Sub-Supplier Questionnaire

(to be filled in by Sub-Supplier)

3	Casting				
4	Forging				
5	Fabrication				
6	Welding				
7	Machining				
8	Heat Treatment				
9	Sheet Metal				
10	Fettling & Cleaning Sand Blasting Shot Blasting Pickling				
11	Painting				
12	Metal Coating				
13	Protection before packing				
14	Packing				
15	Other				

25 (a) Facilities for Testing & Inspection:

Sl. No.	Description	Capacity & Nos.	Make & year of Mfg.	Calibration Status	Approval Qualification	

25 (b) If In-house testing facilities are not available, indicate source of testing with relevant details:

Sl. No.	**Source of Testing**	**Description**	**Capacity & Nos.**	Make & year of Mfg.	Calibration Status	**Approval/ Qualification**	

Sub-Supplier Questionnaire

(to be filled in by Sub-Supplier)

26 (a) Details of any Govt. laboratory facilities available in area:

26 (b) Product related testing facilities (Type/Performance/Routine/Acceptance Tests):

26 (c) Storage of finish goods (covered / open)

27 Source of Raw Materials (including imported raw materials):
a) Type Source

b) Raw material storage & identification:

28. **No. of PCs available with internet Connectivity at works:**

29. Quality management

29.1 General

29.1.1. Organisation Chart of Quality Management: Attached: (Y/N)

29.1.2. Head of QC Department reports to:

29.1.3. Do you have a written Quality Control Instruction Manual? If yes, please furnish a copy of the same.

29.1.4. Have written Quality Control Instruction sheets been prepared and properly used?

29.1.5. Are records generated during inspection maintained & available for review?

29.1.6. Are final inspection areas clean, adequately lighted & of suitable size?

29.1.7. Are written procedure defining stage wise operations and functions on shop floor established and followed?

29.1.8. Are quality control checks adequate to maintain desired quality right from incoming stage to final operation?

Sub-Supplier Questionnaire

(to be filled in by Sub-Supplier)

29.1.9. Whether 100% or adequate sampling inspection used?

29.1.10. Are statistical quality control techniques used?

29.2. Corrective Action

29.2.1. Does the system provide for proper detection of inferior quality and correction of its assignable causes?

29.2.2. Is adequate action taken to correct the causes of defects in products?

29.2.3. Are analysis made to identify trends towards product deficiencies?

29.2.4. Does corrective action extend to products?

29.3 Documentation Control

29.3.1. Does a system for clear and precise stipulation of responsibilities for documentation issue & change control exists?

29.3.2. Are changes made in writing?

29.4. Control of Inspection, measuring & testing equipment

29.4.1. Are necessary gauges, testing and measuring equipment's, available and used?

29.4.2. Are testing and measuring equipment properly maintained?

29.4.3. Is recorded control on calibration of equipment available?

29.5. Control of procured supplies & Services

29.5.1. Do the vendor/sub-Supplier's purchasing documents refer to specific design manufacturing and testing requirements?

29.5.2. Do purchasing documents also contain special requirements?

29.5.3. Are requirements for necessary tests and inspection of raw material specified in purchasing documents?

30. CONSISTENCY IN SUPPLY

30.1. Has the vendor/sub-Supplier produced items of similar nature in past?

30.2. Has the vendor/sub-Supplier maintained delivery commitments in past?

Sub-Supplier Questionnaire

(to be filled in by Sub-Supplier)

30.3. Has there been frequent labour trouble in past?

30.4. Has there been major upset due to faulty material management?

30.5.1 Whether the system of planning and scheduling resilient enough to overcome temporary setbacks and make up lost time?

30.6. Can the vendor/sub-Supplier quickly off load the work to other reliable sub-vendors:

If Yes, the name of sub-vendors:

31. Order booking position as on date in terms of:

a) Value :

b) Time :

32. Any special information

33. I CERTIFY THAT THE INFORMATION SUPPLIED HEREIN (INCLUDING ALL PAGES ATTACHED) IS CORRECT TO THE BEST OF MY KNOWLEDGE.

SEAL

SIGNATURE_____

NAME_____**M/S.**_____

DESIGNATION_____**PLACE**_____

DATE_____

LIST OF ENCLOSURE

1.

2.

3.

Certification by Main Supplier: Above information have been verified and found in order/ minor changes which have been marked and initialed on this form itself/ observed the following discrepancies.

Sub-Supplier Questionnaire

(to be filled in by Sub-Supplier)

Name: Designation: Signature: Date:

Certification by visiting team: Above information except as under have been verified and found in order.

Name: Designation: Signature: Date:

1.
2.

ASSESSMENT TEAM REPORT

PROJECT : **STAGE:**

PACKAGE : **PACKAGE NO.:**

MAIN SUPPLIER :

ITEM :

TYPE/SIZE/RATING :

NAME AND ADDRESS OF THE SUB-SUPPLIER'S WORKS:

PHONE, MOBILE,

FAX &E-MAIL

WEEKLY OFF DAY:

ADEQUACY OF ORGANISATIONAL STRUCTURE/ QUALITY SET UP : YES/NO

ADEQUACY OF MANUFACTURING FACILITY : YES/NO

ADEQUACY OF TESTING FACILITY : YES/NO

ADEQUACY OF PAST EXPERIENCE : YES/NO

USER FEEDBACK : YES/NO

RECOMMENDATION: - PLEASE TICK

A. SUB-SUPPLIER IDENTIFIED IN THE PRE-AWARD AS **"DR "** : YES/NO

IF NO, REASON OF SUB-SUPLLIER ASSESSMENT FOR CONSIDERATION OF HEAD (QA&I)

B. SUB-SUPPLIER TO BE ASSESSED BASED ON REVIEW OF DETAILS: YES/NO
IF YES INDICATE REASON.

C. VISIT REQUIRED YES/NO

D. SPECIAL ASPECTS TO BE SEEN DURING SUB-SUPPLIER VISIT :

ASSESSMENT TEAM REPORT

SUB-SUPPLIER NAME & LOCATION:

E. WHETHER INVOLVEMENT OF ENGINEERING IS REQUIRED YES/NO

F. REGULARISATION OF SUPPLIER BASED ON PAST EXPERIECE ( )

G. OTHER APPROVED SUB-SUPPLIERS IDENTIFIED IN LOA:

DEALING ENGINEER **GROUP HEAD**

NAME: **NAME:**

DATE: **DATE:**

NOMINATION OF VISITING / REVIEW TEAM & SCREENING COMMITTEE:

Visiting Team Member	**1.**	**2.**
Screening committee	**1.**	**2.**
Proposed by	**Concerned HOD**	**HOD-QA**
Name		
Sign. & Date		

CONCURRED BY HEAD (QA &I) SIGNATURE

NAME

DATE

Record of meeting of visiting and screening Committee members before visit of assessment:

Sign.: Member of Visiting Team : _____ _____

Member of Screening Committee: _____ _____

ASSESSMENT TEAM REPORT

(TO BE FILLED IN, FOR VISIT AND PAPER ASSESMENT)

I. GENERAL INFORMATION:

a) Party visited : M/S_____

b) Date of Visit :_____

c) Persons contacted :_____

d) Items under consideration :_____

Type/ size/rating :_____

e) Other items manufactured :_____

f) Main Supplier : M/S _____

g) Package, Project, Stage etc. :_____

II. ORGANISATIONAL STRUCTURE & QA SETUP*:*

III. MANUFACTURING AND TESTING FACILITIES (Enclose Flow chart for complete manufacturing process from raw material to finished goods clearly indicating in-house/offloading for any process/ operation)	**P O I N T S**	
	Maximum	Allotted
a) Design capability/ Compliance to Technical Collaboration	**20**	
b) Adequacy of in-house manufacturing/ offloaded Processes	**20**	
c) Adequacy of testing facilities/ calibration status.	**20**	
d) Material handling and storage facilities.	**20**	
e) Experience, knowledge and capability of production/QC staff	**20**	
TOTAL- A =	**100**	

ASSESSMENT TEAM REPORT

IV. MANAGEMENT OF QUALITY	POINTS	
	Maximum	Allotted
a) Availability of Quality Management Procedures and their Implementation for each process	**15**	
b) Document/Data Control and Records.	**15**	
c) Purchasing – (Availability of approved vendor list, Source/ Receipt Inspection system, Vendor approval system).	**15**	
d) Identification and Tractability including Inspection Status.	**10**	
e) Evidence of continual Improvement	**15**	
f) Effective Customer Complaint system	**15**	
g) Effective system of Internal Audit	**15**	
TOTAL – B =	**100**	

V. PAST EXPERIENCE/PERFORMANCE RECORD:	POINTS	
	Maximum	Allotted
a) Regularly supplying similar type of equipment No Supply 00 1 Year or less 10 2 Year or less 20 3 Year or less 30 4 Year to less 40 5 Year to less 50	**50**	
b) User's operation performance feedback From 1 installation 15 From more than 1 installation 25	**25**	
c) Delivery schedule Within delivery period 25 Delayed but accepted by user 15 Delayed but accepted with penalty 05	**25**	
TOTAL=C=	**100**	

ASSESSMENT TEAM REPORT

VI. OVERALL RATING: X = (A+B+C)/ 3

VII.SPECIAL OBSERVATIONS:

VIII.RECOMMENDATIONS WITH BASIS:

CONDITIONS OF APPROVAL/REASONS FOR REJECTION:

IX. OBSERVATIONS/ASSESSMENTS FOR OTHER ITEMS MANUFACTURED:

1.Name_____ Design:_____ Sign:_____ Date:_____

2. Name_____ Design:_____ Sign:_____ Date:_____

List of Encl.:

SUB-SUPPLIER APPROVAL CARD

1. GENERAL INFORMATION: **FILE NO.:**

a) Party assessed: M/s .....

b) Works address: .....

c) Assessed by: ..... d**) Date of assessment**
(Visited/Doc. Review*):* .....

e) Project & Package: ....**Package Code**

f) Proposed by Main- Supplier: M/s .....

g) Item details with Model/: .....
Type/ Size/Rating etc. (for: .....
Which assessment was made): .....

2. DETAILS OF PREVIOUS ASSESSMENT (S) IN BRIEF: This party was assessed vide Card No. ..... on (date) ..... for (Package, Project,):..... proposed by Main Supplier: M/s: .... for Item (details with size/ Rating/materials type):
.....
.....
.....
Brief Synopsis: Accepted Subject to condition/ Rejected due to*:*

3. AVAILABILITY OF FACILITIES IN BRIEF AS PER QUESTIONNAIRE (FOR DETAILS REFER QUESTIONNAIRE)

i) Design: in house/ in Tech. collaboration with

ii) Item-certification/approval by

iii) Quality procedure availability/ implementation

iv) Manufacturing/ Processes carried out in house:

v) Manufacturing facilities available in house:

vi) Processes off loaded outside:

vii) Bought out items:

viii) Inspection/ Testing:

ix) Qualified Manpower:

x) Any Other:

4. BRIEF REPORT ON EXPERIENCE, FEEDBACK & SPECIAL OBSERVATION:

CONTD ...

SUB-SUPPLIER APPROVAL CARD

5. RECOMMENDATIONS:

Rating		Recommended		Not Recommended	

Name…….. **Signature……..**
Designation……..Date…… **Name……..**
Signature……..Designation ……..Date……

---

6. SCREENING COMMITTEE REVIEW:

Name……..Signature……..
Designation……..Date……
Name……Signature……..
Designation……..Date……

7.RECOMMENDATION OF HOD:

Name…….. **Designation** **……** **Signature……..**
Date……

8.CONCURRENCE OF HEAD (QA&I): **APPROVED/ NOT APPROVED**

Name…….. **Designation** **……** **.Signature……..**
Date……

FEEDBACK ON SUB-SUPPLIER PERFORMANCE

1.1 Name of Package & Project :

1.2 Name of Main Supplier :

1.3 Name of the Sub-Supplier :

1.4 Description of item :

2. PERFORMANCE FEEDBACK:

2.1 Any major Non-conformance during Manufacturing & Testing:

2.2 Any failure (reported) at site during commissioning:

2.3 Dealing Engineer's general comment on Sub-Supplier's approach w.r.t. QA&I issues like timely submission and quality of document during execution of contract.

2.4 Overall performance rating Satisfactory/ Unsatisfactory

3. Recommendation for putting on holiday list YES/ NO

Dealing Engineer: Name Signature: Date:

HOD (Discipline): Name Signature: Date:

Head (QA&I): Name Signature: Date:
(Only in case of recommendation for putting the sub-Supplier on holiday list.)

Review and Approval of Quality Plans

1) **PURPOSE:** To provide guidelines for review and approval of Quality Plans including Field Quality Plans.
2) **SCOPE:**
   a. This procedure covers guidelines for Manufacturing and Field activities of equipment/ products procured for Projects.
   b. Field Quality Plan is intended to cover all activities at site from Material Receipt and Storage, up to completion of Erection activities of equipment/products. It doesn't cover commissioning activities.
3) **DEFINITIONS:** Vocabulary as given in the Quality Management System Manual.
4) **REFERENCES:**
   a. Pre-award QA Activities: (Doc.No.:QMS-P-01)
   b. Post-award QA&I activities: (Doc.No.:QMS-P-02)
   c. List of Controlled Documents and Records: (Doc.No.:QMS-P-03)
5) **PROCESS:**
   a. **Finalization of Manufacturing Quality Plans:**
      i. **INPUT:**
         1. Quality Plan submitted by the Supplier in format No.: QMS-P-05/ F1.
         2. Manufacturer's Plant Standards.
         3. Technical Specifications & LOA.
         4. Good Engineering Practices & State of the Art Technology requirements.
         5. Experience & Feedback received in past.
         6. Supplier/ Sub-supplier approval status and conditions of approval, if any.
         7. Comments on earlier submission of the QP.
      ii. **Resources**:
         1. QA Engineer.
         2. Relevant National/ International Codes/ Standards.
         3. Sub-Supplier Data Bank.
         4. Latest Approved Quality Plan of the same manufacturer or other reputed manufacturer of similar equipment.
      iii. **Process:**
         1. The Quality Plan submitted shall cover detailed checks at various stages of manufacture like Raw material, In-process, Final testing, Packing prior to despatch etc.
         2. The submitted Quality Plan shall be in line with Manufacturer's Plant Standards, National/ International Standard, approved drawings/ data sheets and Contract Specifications. This shall also contain statutory testing requirements, if any.
         3. Suppliers/ Sub-Suppliers approval conditions should be addressed suitably in the QP.

4. Comments on earlier submission should either be properly incorporated or Supplier should give reasons for not doing so.
5. Contents of the QP and associated documents shall be reviewed according to above inputs and resources.
6. Suitable CHP stages are to be identified, in line with the Item Categorization in LOA, for Inspection by APGENCO by putting "W" under the column A.
7. Documentation submission points are to be identified by putting "Tick" suitably.
8. In case major clarifications/ details are required on review of QP, the comments shall be forwarded to the Supplier and submission of revised QP shall be requested.
9. The QP with comments may be approved in CAT-B provided the comments are such that on incorporation of the same, the QP can be approved in CAT-A. In this case also submission of revised QP for CAT-A approval shall be requested from Supplier.
10. QP without any comments shall be approved in CAT-A.
11. Suitable unique documentation No. shall be put on the QP.

iv. **Control:**
   1. All QPs & their revisions shall be maintained by concerned QA engineer/ Group Head.
   2. Approval Status of QP shall be maintained by QA Engineer.

v. **Output:** QP approved in either Cat-A or Cat-B or QP with comments only. Copies of approved QPs are to be distributed to Supplier & Inspection group for action at their end. Copy of commented QP shall be forwarded to supplier for providing clarifications/ details.

vi. **Record:** Copy of approved or commented QP with appropriate updated status.

b. <u>Finalization of Field Quality Plans:</u>

i. **Input:**
   1. Quality Plan submitted by the Supplier in format No.: QMS-P-05/ F2.
   2. Reference Standards for erection activities or Erection Manual.
   3. Technical Specifications & LOA.
   4. Approved Drawings/ Data sheets.
   5. Statuary testing requirements, if any.
   6. Experience & Feedback received in past.

ii. **Resources**:
   1. Good Engineering Practices, and state of art technology requirements.
   2. Latest Approved Field Quality Plan of the same manufacturer and other reputed manufacturer of similar equipment.
   3. QA Engineer.

iii. **Process:**

1. The FQP submitted shall cover detailed checks at various stages of field activities like Material receipt, Storage, Handling, Pre-assembly, Assembly and Erection etc.
2. The submitted FQP shall be in line with Manufacturer's Plant Standards, National/ International Standard, approved drawings/ data sheets and Contract Specifications. This shall also contain statutory testing requirements, if any.
3. Comments on earlier submission should either be properly incorporated or Supplier should give reasons for not doing so.
4. Contents of the FQP and associated documents shall be reviewed according to above inputs, resources& past feed backs.
5. Suitable categorisation of each check shall be done, for involvement of APGENCO.
6. In case major clarifications/ details are required on review of FQP, the comments shall be forwarded to the Supplier and submission of revised FQP shall be requested.
7. The FQP with comments may be approved in CAT-B provided the comments are such that on incorporation of the same, the FQP can be approved in CAT-A. In this case also submission of revised FQP for CAT-A approval shall be requested from Supplier.
8. FQP without any comments shall be approved in CAT-A.
9. Suitable unique documentation No. shall be put on the QP.

iv. **Control:**

1. All FQPs & their revisions shall be maintained by concerned QA engineer/ Group Head.
2. Approval Status of FQP shall be maintained by QA Engineer.

v. **Output:** FQP approved in either Cat-A or Cat-B or FQP with comments only. Copies of approved FQPs are to be distributed to Supplier & site for action at their end. Copy of commented FQP shall be forwarded to supplier for providing clarifications/ details.

vi. **Record:** Copy of approved or commented FQP with appropriate updated status.

6) ASSOCIATED DOCUMENTS:

a. Format No.QMS-P-05/F-1-Manufacturing Quality Plan (MQP)
b. Format No.QMS-P-05/F-2-Field Quality Plan (FQP)

APPENDIX – A

Guidelines for preparation of Manufacturing Quality Plan (MQP)

(Format no. QMS-P-05/F1 Rev 0)

APPENDIX-A

Guidelines for preparation of Manufacturing Quality Plan (MQP)

(FORMAT NO.QMS-P-05/F1)

Manufacturer's works name and address:

In the column of "Manufacturer's works name and address" Manufacturer's works name and full address shall be indicated.

Name of the Item:

In the column of "Name of the Item" (title), full name of the item for which QP is being prepared should be indicated along with the complete material, type, class, rating, range, size etc. or complete designation/ description of the item or as recommended in the product specification.

Column 2: Component and Operation should be indicated in sufficient detail including exact area and stage of processing, testing, pre-dispatch etc.

Column 3: Characteristics of check should be indicated, as applicable, visual, dimensional, hydraulic, chemical, mechanical, performance, ultrasonic, magnetic particle, dye penetrate, radiographic, polarization index, high voltage, insulation resistance, etc.

Column 4: Under 'CLASS', each check shall be classified as CRITICAL, MAJOR and MINOR depending upon its criticality in overall integrity of the equipment.

Column 5: Type of check shall indicate nature of check i.e. visual, measurement, physical, chemical analysis, NDT etc.

Column 6: 100% checks or sample basis specifying percentage sample to be checked. In sub column marked 'M', the quantum of check by manufacturer shall be indicated. In sub column marked C/A, the quantum of check by contractor and by APGENCO shall be indicated. In case quantum of check is different for "C" & "N", the same shall be indicated in remark column.

Column 7: Plant standard, IS, DIN, BS, ASME, IEC or other national/international standards, statutory codes, drawings etc., as per which checks/tests shall be carried out, shall be indicated.

Column 8: Plant standard, design data, national/international standard or other acceptance norms shall be indicated.

Column 9: Appropriate format/certificate on which test/inspection results recorded shall be indicated.

Column 9 'D': Records shall be identified by APGENCO with Tick marks (√) shall be essentially included by contractor in QA documentation package.

Column 10: Agency performing, reviewing or witnessing of tests/checks shall be indicated. Sub column M, C, A stand for manufacturer, contractor/nominated inspection agency, APGENCO respectively. Under these sub columns 'P', 'W', 'V' shall be indicated for Perform, Witness and Verification respectively.

Column 11: Remarks: Any specific remark shall be written here. 'CHP' stage shall be identified by term "CHP" in this column.

APPENDIX – B

Guidelines for preparation of Field Quality Plan (FQP)

(Format no. QMS-P-05/F2 Rev 0)

APPENDIX-B

Guidelines for preparation of Field Quality Plan (FQP)
(FORMAT NO.QMS-P-05/F2)

Supplier name and address:
Name and full address of supplier shall be indicated.
Name of the Item:
Full name of the item/ system, for which FQP is being prepared, should be indicated along with the complete material, type, class, rating, range, size etc. or complete designation/ description of the item or as recommended in the product specification.
Column 2: Name of components/ equipment/ system and operations like Site Receipts Inspection, Storage, Handling, pre-Erection and Erection shall be indicated. ***However the column '2' & '3" can be merged or divided to facilitate clarity for a particular set of Supplier/ Sub-supplier/ Manufacturer.***
Column 3: Characteristics of activity and operation being checked should be indicated, as applicable. For example Visual, dimensional, levelling, Alignment, hydraulic, chemical, mechanical, performance, ultrasonic, magnetic particle, dye penetrant, radiographic, polarization index, high voltage, insulation resistance, etc. Instruments used, if any, for checking shall also be indicated.
Column 4: Each check shall be classified as Class A, B or C, depending upon its criticality in overall integrity of the equipment/ system, denoting Critical, Major or Minor category of check respectively. Further, the class of check shall also define the authorisation of witnessing the check &dispositioning of non-conformities encountered, which is given below;

Authorisation for different categories of checks:

Classof check	**Check/ Witness**	**Counter-check/ Surveillance by**	**Accepting Authority**	**Non-Conforming Dispositioning Authority**
A/ Critical	Field QA Engineer *in association with Erection/ Construction Engineer.*	Head- Field QA	Head-Field QA	Head (QA&I) in consultation with Head (Engg.) (if necessary)
B/ Major	Erection/ Construction Engineer.	Field QA Engineer	Head-Erection/ Construction	Head- Field QA in consultation with Head of Project
C/ Minor	Contractor Engineer	Erection/ Construction Engineer.	Head-Erection/ Construction	Head- Erection/ Construction

APPENDIX – B

Guidelines for preparation of Field Quality Plan (FQP)

(Format no. QMS-P-05/F2 Rev 0)

Checks classified as 'A'/'B' shall be APGENCO's CHP stage. Wherever the classification of checks by APGENCO, is different from that of Supplier, the same shall be indicated in the remarks column by APGENCO.

Column 5: Type of check shall indicate nature of check i.e. visual, measurement, physical, chemical, NDT etc.

Column 6: 100% check or sample basis specifying percentage sample to be checked. In case check has to be performed periodically, frequency of testing to be indicated. Wherever the quantum of checks by APGENCO is different from that of Supplier, the same shall be indicated in the remarks column by APGENCO.

Column 7: Plant standard, IS, DIN, BS, ASME, IEC or other national/international standards, statutory codes, drawings etc. as per which checks/tests shall be carried out, shall be indicated.

Column 8: Plant standard, design data, national/international standard with their acceptance norms or other acceptance norm shall be indicated.

Column 9: Appropriate format/certificate on which test/inspection results recorded shall be indicated.

Column 9 'D': Records which are identified by APGENCO with Tick mark (√) shall be essentially included by contractor in QA documentation Package.

Column 10: Any specific remark shall be written here.

MFGR.'s LOGO	MANUFACTURER'S NAME AND ADDRESS	**MANUFACTURING QUALITY PLAN**	PROJECT : PACKAGE : CONTRACT NO. : MAIN-SUPPLIER:
		ITEM : SUB-SYSTEM:	QP NO.: REV.NO.: DATE: PAGE: …. OF….

SL. NO	COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK		REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD		AGENCY			REMARKS
					M	C / A					M	C	A	
1.	2.	3.	4.	5.	6.		7.	8.	9.	D*	**	10.		11.

MANUFACTURER/ SUB-SUPPLIER	MAIN-SUPPLIER
SIGNATURE	

LEGEND: * RECORDS, INDENTIFIED WITH "TICK" (√) SHALL BE ESSENTIALLY INCLUDED BY SUPPLIER IN QA DOCUMENTATION.
** **M:** MANUFACTURER/SUB-SUPPLIER **C:** MAIN SUPPLIER, **A**: APGENCO, **P:** PERFORM **W**: WITNESS AND **V:** VERIFICATION. AS APPROPRIATE, **CHP:**APGENCO SHALL IDENTIFY 'W' IN COLUMN "A"

FOR APGENCO USE

DOC. NO.:		REV…… CAT…..
REVIEWED BY	APPROVED BY	APPROVAL SEAL

FORMAT NO. : QMS-P-05/F1 **PAGE 65 OF 1**

SUPPLIER'S LOGO	SUPPLIER'S NAME AND ADDRESS	**FIELD QUALITY PLAN** ITEM : SUB-SYSTEM:	QP NO.: REV. NO.: DATE: PAGE: …. OF….	PROJECT : PACKAGE : CONTRACT NO. : MAIN-SUPPLIER:

L. NO	ACTIVITY AND OPERATION	CHARACTERISTICS / INSTRUMENTS	CLASS OF CHECK #	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD	D*	REMARKS
1.	2.	3.	4.	5.	6.	7.	8.	9.		10.

MANUFACTURER/ SUB-SUPPLIER	MAIN-SUPPLIER
SIGNATURE	

LEGEND: * RECORDS, INDENTIFIED WITH "TICK" (√) SHALL BE ESSENTIALLY INCLUDED BY SUPPLIER IN QA DOCUMENTATION.
LEGEND TO BE USED: CLASS # : A = CRITICAL, B=MAJOR, C=MINOR;
'A' SHALL BE WITNESSED BY OWNER QUALITY DEPTT., **'B'** SHALL BE WITNESSED BY OWNER ERECTION / CONSTRUCTION DEPTT. AND **'C'** SHALL BE WITNESSED BY MAIN SUPPLIER (A & B CHECK SHALL BE OWNER CHP STAGES)

FOR APGENCO USE

DOC. NO.:		REV……
REVIEWED BY	APPROVED BY	APPROVAL SEAL

FORMAT NO. : QMS-P-05/F2 **PAGE 66 OF 1**

Inspection, Testing and Issue Of CHP Reports

1) **PURPOSE:** To specify the functional activities related to undertaking the work of Inspection, Testing and issuance of CHP thereof.

2) **SCOPE:** The scope covers the steps and measures to be undertaken during the Inspection &Testing in line with the agreed documents and issuance of CHP report indicating the outcome of the Inspection.

3) **DEFINITIONS:** Vocabulary as given in the Quality Management System Manual.

4) **REFERENCES:**

   a. Pre-award QA Activities: (Doc.No.:QMS-P-01)
   b. Post-award QA&I activities: (Doc.No.:QMS-P-02)
   c. List of Controlled Documents and Records: (Doc.No.:QMS-P-03)

5) **PROCESS:**

   a. **Inputs:**

      i. Inspection call in the prescribed Format No.: QMS-P-06/F1.

      ii. Latest revision of the approved QP and Test procedures.

      iii. Latest revisions of all the approved drawings/data sheets.

      iv. Availability of the standards referred in the approved documents at the place of inspection.

      v. CHP reports of all the previous stage inspections (if applicable).

      vi. Letter of Award, Technical specification and BBU.

   b. **Resources:**

      i. Skilled manpower

      ii. National & International Standards.

      iii. Various Calibrated Instruments, test setup with appropriate facilities, at the place of Inspection.

   c. **Process:**

      i. **Inspection and testing:**

         1. The inspection and test requirements, quantum and stage of inspection (CHP) are already identified in approved QP or other documents as applicable, for which Supplier/Sub-supplier shall raise inspection call.

         2. **Physical Inspection:**

            (a) Physical inspection of materials shall be performed for the checks which are specified in the approved QP and are required to be witnessed by APGENCO. Inspection shall be carried out at the place of

manufacturing, unless it is specifically agreed in writing for other place and shall also be recorded in the CHP report. During the inspection, Inspection Engineer shall first review the availability of APGENCO approved documents such as QP/ DRAWINGS/ DATASHEETS etc. with latest revisions and authenticity of documents shall be ensured. The acceptance parameters, against each check/ test, shall be verified from the datasheet/ relevant standards and noted down to avoid chances of wrong referral of acceptance criteria. Inspection Engineer shall thereafter carry out designated inspection against the agreed requirements, as applicable and shall also ensure the following:

(b) The manufacturer has maintained product identification and its tractability.

(c) Clearance of previous CHPs, wherever applicable, are obtained by the manufacturer.

(d) Test and measuring equipment used during the designated inspection are controlled and are in a known state of calibration along with their calibration records.

(e) Availability of up-to-date internal inspection records of Manufacturer.

(f) Non-conformities, if any, have been approved by the designated authority.

(g) Surveillance check, w.r.t. the agreed QMS program.

(h) Upon completion of designated inspection, inspection engineer shall suitably put his own identification mark on the inspected item (like hard punch of his Stamp) and prepare CHP Reports. Any non-conformity observed, shall also be highlighted in the CHP report. The detailed report of the tests witnessed & relevant Test Certificates etc. should be annexed with the CHP. CHP report shall mandatory be prepared for every identified manufacturing stage inspection as per the approved QP.

(i) Under exceptional circumstances, when APGENCO witnessing is waived in writing, by QA&I, records of such waiver along with inspection/test record of supplier/ manufacturer shall be reviewed. Such waiver shall also be mentioned in the CHP report.

3. **Review of Test Reports and/ or COC:**

(a) For the materials where physical inspection has not been identified in the approved QP, or the material is under NON-QP category, the relevant Test Reports/ Certificate of Conformance (COC) submitted by Supplier, as the case be, shall be reviewed. COC shall be on the Format No.: QMS-P-06/F2.

(b) On review of the above reports, when the material is found conforming to the specified requirements, it shall be cleared for

dispatch, by issuing Material Despatch Clearance Certificate (MDCC). However, if any non-conformity is observed, it shall be communicated through CHP, highlighting the non-conformity.

4. **Preparation and Issue of CHP**

(a) The CHP Report shall be prepared onthe Format No.: QMS-P-06/F3, after completion of designated inspection as discussed above.

(b) Non-Conformities, if any, shall be dealt as per Procedure No.QMS-P-08.

(c) Details as required by the format need to be filled up accurately. Unique CHP No. is to be given to the report. Material description should match the description given in the approved BBU.

(d) The date on which CHP Report is prepared shall be clearly mentioned. All inspection dates, if different from report date, especially in case of physical inspection continuing for more than one day, are to be indicated in the remarks column.

(e) Details of all tests carried out, as specified in QP, shall be indicated in the remarks column, as far as feasible.

(f) All reference documents like QP, Drawing, Datasheet, Test procedures etc. shall be clearly identified with their unique no., Date & Category of approval etc. In any document is not applicable, the same should be specifically mentioned as “NIL”. For Non-QP Items, same shall be recorded accordingly.

(g) Quantity actually offered for inspection by the Supplier/ Sub-supplier shall be recorded. In case there is a mismatch in the quantity offered with quantity referred in the inspection call, or the quantity referred in the inspection call is not at all offered, the same shall be highlighted in the remarks column.

(h) Quantity, which is clearly accepted during inspection, shall be recorded. In case no quantity is accepted, “NIL” shall be indicated. Accordingly quantity which is not accepted during inspection or consumed in the testing shall be clearly recorded.

(i) In the remarks column, details of inspection carried out material/item shall be clearly indicated. Reference of the test certificates/lab reports/ inspection reports, shall be clearly indicated with proper correlation. The observations with reference to the inspection characteristics/critical dimensions or cause of rejection/rectification shall be clearly mentioned. In case of non-Conformityor any other specific case, it shall be clearly bought out along with supporting documents/ drawings/sketch.

(j) Identification of inspected material shall be clearly indicated in CHP. If material is not identified/ sealed, same shall also be clearly written in remarks.

(k) Suitable disposal code is to be indicated against each item inspected, for quick status reporting of the outcome of Inspection. The list of disposal codes is at**Appendix-'A'**.

(l) CHP report shall be signed by the Supplier/ Sub-Supplier & the Inspection engineer, after verifying the contents of the report. One copy of the CHP shall be given to the Supplier, for his information & further necessary action.

d. **CONTROL:**

1. All Inspection calls, actual inspection dates & inspection issues, shall be closely monitored against L2 network of the package.
2. Deployment of Manpower as per availability& priority.

e. **OUTPUT & RECORD:**A detailed CHP report with all enclosures.

6) ASSOCIATED DOCUMENTS:

a. Format No.: QMS-P-06/F1-Inspection Call.

b. Format No.: QMS-P-06/F2-Certificate of Conformance.

c. Format No.: QMS-P-06/F3-CHP clearance/ Interim Inspection Report.

APPENDIX - A

Appendix A

DISPOSAL CODE	DISPOSAL DISCRIPTION	ACTION BY
A	Item is not ready. Fresh inspection call to be given.	VENDOR
B	Rework required. Fresh inspection callwith compliance to be given.	VENDOR
E	Material is not acceptable.	VENDOR
J	Material accepted. MDCC issued.	VENDOR
JC	Accepted. Conditional MDCC issued.	VENDOR
K	Stage inspection accepted. MDCC not applicable.	VENDOR
L	Accepted. MDCC not applicable.	VENDOR
XF	Accepted, subject to approval of deviation.	VENDOR
XG	Accepted, subject to compliance.	VENDOR
XH	Material inspected. Accepted subjected to BBU approval.	CONTRACTS
XI	Accepted, subject to type test approval.	VENDOR
XQ	Inspection attended. Testing continued for long duration test.	INSPECTION
XT	Partially inspected, further inspection required	INSPECTION
XX	Documents not approved in Cat-A, MDCC withheld.	VENDOR
XY	Any condition not covered above.	VENDOR

CHP CLEARANCE /INTERIM INSPECTION REPORT

Logo Of Supplier/ Sub-Supplier/ Manufacturer	**FROM: SUPPLIER : (ON WHOM APGENCO PLACED LOI/ ORDER)** M/s:---------- **Address----------**Contact Person: -------- Ph:(O): ----------Fax:---------- Ph(R):- ----------Mobile: ------ **e**-mail:-------	***INSPECTION CALL FOR APGENCO INSPECTION*** **(FOR SUBMISSION BY SUPPLIER/ SUB-SUPPLIER)**	**TO:INSPECTION OFFICE ----------** Contact Person: ---------- Ph:(O): ----------Fax:----------**--** Mobile: ---------- **e**-mail: ----------

SUB-SUPPLIER (If Applicable)
M/s:---------- ---------- Address ----------
Contact Person: ----------Ph:(O): ----------
Fax:----------Mobile: ----------**e**-mail: ----------
MANUFACTURER (Place of Inspection)
M/s …… Address ----------
----------***Contact Person:*** ----------
Ph.(O): ----------***Fax:***----------***Mobile:*** ----------
Ph.(R): ---------- ***e-mail:*** ----------

PROJECT NAME: ----------PACKAGE NAME: ----------
---APGENCO CONTRACT NO/ PO NO/LOA NO.: ---------- PROPOSED DATE OF INSPACTION: ---------- NO. OF DAYS REQUIRED: ----------
-------WEEKLY OFF DAY OF MANUFACTURER..---------- ----------

(*FOR APGENCO USE*) I/C NO.	SL. NO.	DRAWING No.	ITEM DESCRIPTION / TESTS	QUANTITY				Insp. Cat (*)	REFERENCE DOCUMENT	REMARKS/ UNDERTAKING
				As in LOA	Already supplied	Offered	Unit			
									QP No. Drg./Data sheet No.	1. Material internally inspected, in line with APGENCO approved QP and found satisfactory. 2. All Reference Documents including latest revisions of APGENCO approved QP/Drawing/ BBU in original are available and shall be made available during inspection. 3. All stage inspection requirements if applicable have been cleared and relevant CHP's are available. 4.(**Applicable for Bought Out Items**) Inspection by Main supplier is completed and material is cleared. ORJoint inspection along with Main supplier proposed. 5. Approval for deviations in QP/ Drg./Technical specifications have been obtained from APGENCO. 6. Type test Approval from APGENCO: Obtained / Pending / Not available./ Not Applicable. 7. Material shall not be Despatched without Despatch Clearance from APGENCO. **SIGNATURE:----------** **NAME:……..** **DESIGNNATION :----------ORGANISATION: ----------** **REF ----------DATE----------**

Insp. Cat (*): *Enter* **0** – For Stage Inspection. **1** – For Final Physical Inspection. **2** – For Review of MTC's based on QP **3** – For Non-QP cases based on COC.

CHP CLEARANCE /INTERIM INSPECTION REPORT

MAIN-SUPPLIER'S LOGO

(NAME & ADDRESS OF THE MAIN SUPPLIER)

M/S.....
.....

Ref. No. : ..... Date: .....

CERTIFICATE OF CONFORMANCE

Project& Package : _____
Contract No./P.O. No. : _____
Sub-Supplier's Name : _____

Sl. No.	Description of item/ Equipment	Specification Size/Type/ Rating	Make	APGENCO DRG. NO. / REF. DRG. NO.	Qty. Offered	Bal. Qty.	BBU Ref.	Identification Mark

It is hereby confirmed that above mentioned components/items/equipment was/were manufactured and tested in accordance with drawings/data sheets as referred above and found acceptable.

Signature :
Name :
Designation :

Note:

1. Wherever a deviations are accepted by the contractor, relevant details to be enclosed with the Certificate of Conformance.
2. For Mandatory and Recommended Spares, the contractor shall furnish a 100% Interchangeability certificate with original equipment, along with Certificate of Conformance.

CHP CLEARANCE /INTERIM INSPECTION REPORT

PROJECT NAME : _____ CONTRCTOR :

PACKAGE NAME : C.H.P. CLEARANCE/INTERIM INSPECTION REPORT SUB-CONTRACTOR:

CONTRACT NO. :

INSPECTION DATE: CHP NO.: PAGE: …of … PLACE:

S.NO.	I/C NO.	DESCRIPTION OF MATERIAL/TEST	QUANTITY OFFERED	QUANTITY ACCEPTED	QUARANTINED/ REJECTED QTY	UNIT	DISPOSAL CODE	REFERENCE DOCUMENTS	REMARKS

MDCC NO. ANNEXURE

FOR CONTRACTOR/SUBCONTRACTOR For and behalf of APGENCO

Issue & Control of Material Dispatch Clearance Certificate (MDCC)

1) **PURPOSE:** To provide guidelines related to issue and control of MDCC (Material Dispatch Clearance Certificate).
2) **SCOPE:** The scope covers the steps and measures to be undertaken during the Inspection & Testing in line with the agreed documents and issuance of MDCC, to allow dispatch of materials to site, indicating the outcome of the Inspection.

3) DEFINITIONS:

a. Vocabulary as given in the Quality Management System Manual.

4) REFERENCE:

a. Pre-award QA Activities: (Doc. No.: QMS-P-01)
b. Post-award QA&I activities: (Doc. No.: QMS-P-02)
c. Review & approval of Quality Plans: (Doc. No.: QMS-P-05)
d. Inspection, Testing & issue of CHP Reports: (Doc. No.: QMS-P-06)

5) **PROCESS:**

a. Input:

i. Letter of Award (LOA).
ii. Approved Billing Breakup (BBU) Schedule of the contract.
iii. Final CHP report (As per Doc. No: QMS-P-06) accepting the material(For Cat- I & Cat-II items).
iv. Approval of NC's observed (if any) during manufacturing/inspection/testing.
v. Approved proposal for issuance of Conditional MDCC (if applicable).
vi. COC by Main Supplier along with inspection calls, for Cat-III items.
vii. Type test waiver by APGENCO (if applicable).

b. Resources:

i. Inspection Database.
ii. Skilled Manpower.

c. Process:

i. Issue of MDCC:

1. MDCC is issued for the identified billable items, to be allowed for dispatch directly to APGENCO Project Sites by the Supplier/ Sub-supplier, for regulating payments.

2. MDCC shall only be issued after ensuring all specified requirements of Quality Plan and other documents, approved by APGENCO have been met by Supplier/ Sub-supplier (Manufacturer). This shall be the responsibility of Inspection engineer.
3. MDCC invariably contains the item description, quantity with units, LOA/ contract billing break-up (BBU) number & reference number of the CHP clearance report (as applicable).
4. Inspection Engineer shall ensure that all the Material Test Certificates (MTCs) and other documents, furnished to APGENCO, for issue of MDCC, are duly authenticated by the Supplier.
5. For any items/equipment, if the corresponding documents i.e. approved QP, Drawing/Data sheet etc. are Cat-A approved, and the Technical requirements of the equipment are met; MDCC, in format No. QMS-P-07/F1, shall be issued then and there. In case of any hold up in issuance of MDCC, the holdups are to be properly and clearly recorded in the final CHP report.
6. For the materials identified in Cat-II & Cat-III, MDCC remarks shall suitably mention “MDCC issued based on review of MTC/Inspection Report/ Documents/ Certificate of Conformance (COC), furnished by the Supplier. Items not physically inspected by APGENCO".
7. MDCC shall not be issued for the items, which have been dispatched without clearance from APGENCOQA&I.
8. MDCC shall be issued for quantities in measurable units. In case the approved BBU schedule of any item/equipment is indicated in sets/Lots, exact quantities must be ascertained in each Set/ Lot, before issue of MDCC, and the same shall be clearly mentioned in the MDCC.
9. The BBU number should be unique (for easy & proper identification) and shall not be repeated in the contract. In case of repetition, it should be bought to the notice of the concerned authority.

10. In case a despatchable unit/item is not covered in the approved BBU schedule, but requires clearance from QA&I, as per LOA requirements, the same shall be allowed for dispatch on a CHP clearance report, and MDCC for the same shall not be issued. However, this shall be done after getting a confirmation from the Supplier.
11. MDCC in original, with a duplicate, shall be issued to the Supplier.

ii. Issue of Conditional MDCC:

1. The need for issuing a Conditional MDCC arises, when the Supplier is not in a position to meet the Technical/ Contractual requirements in full, for a particular material, before the dispatch of the material and the material is urgently needed at Project Site. For example, some components are in short supply, type testing of equipment is pending etc. In all such cases, the concerned department shall make a proposal in the Format No. QMS-P-07/F2, clearly indicating all the parameters/ conditions.
2. The proposal for the Conditional MDCC, shall be forwarded through the HOD of the concerned Department to HEAD (QA&I)for approval.
3. Proposal, if approved, shall be forwarded to the concerned Inspection Engineer for issuance of conditional MDCC, with a copy to initiating department for monitoring & ensuring the fulfillment of conditions by the Supplier. MDCC shall clearly be marked “CONDITIONAL MDCC” and the approval conditions shall be clearly spelt out in the remarks column. The MDCC details shall be entered in the approved proposal and a copies shall be forwarded to the concerned, as detailed in the format.
4. Dispositioning (i.e. removal of the conditions) of the Conditional MDCC, shall be the responsibility of the initiating department, as identified in the proposal for CONDITIONAL MDCC.
5. Upon receipt of the compliance of the conditions, Inspection shall revoke the conditions by a letter to the supplier with copies to the initiating department as well as QA, on the prescribed format of "Proposal for Issue of Conditional MDCC".

6. In case of acceptance of any technical requirement or waiver of Type Tests (which has commercial implication and the same is agreed to be settled), the same would not warrant any conditional MDCC, because the equipment is technically acceptable and there is no technical requirement shortfall.

iii. **Dispatch clearance when BBU is not approved or requires amendment:**

1. Where BBU Schedule is not yet approved or is being amended, in respect of offered item/quantity, but all other inputs are available, inspection of the items shall be taken up. If the material is found fit for dispatch, dispatch clearance shall be accorded with the remark "BBU is not approved/ amended. Material is cleared for dispatch. MDCC shall be issued after approval of BBU/ amendment" in the remarks column.
2. If an item/equipment has to be split into two or multiple consignments (as against the description given in BBU as single entity) for the purpose of dispatch or for meeting urgent site erection requirements, dispatch clearance on a CHP report may be issued on the request of the Supplier and MDCC shall be issued when the last item/component of the complete supply, is cleared.
3. In case of the quantities of Items/ equipment are more than the BBU quantities, because of System completion requirements, a request from supplier shall be taken and excess quantity shall be treated as "Non Billable Quantity". CHP Clearance Report shall clearly indicate this aspect and dispatch clearance, if any, shall be given on the CHP itself.

d. CONTROL:

i. All MDCCs shall be identified by Unique MDCC Number.

ii. Targeted timeframe for disposal of Inspection calls as per Project requirements. These shall be closely monitored against L2 network of the package.

iii. List of MDCCs issued against a contract shall be monitored by Head (QA&I). Status of issue of MDCC shall also be monitored by Head (QA&I).

iv. MDCC is a Negotiable Document, for release of payments to the Supplier. MDCC once issued, amendments to it should be avoided. However, in exceptional circumstances, the MDCC amendment/ correction can be done in the following ways;

v. Where errors in MDCC need corrections, Original and Duplicate copy of MDCC is to be taken back from the Supplier for cancellation and MDCC with new number shall be issued after making the necessary corrections, with remarks **"MDCC BEING ISSUED IN LIEU OF MDCC NO….DATED…."**.Cancelled MDCC shall be suitably marked, to prevent its misuse.

vi. Where original MDCC has been lost, Supplier shall give an undertaking that **particular MDCC issued, is not traceable at their end and it shall be returned to APGENCO, if found in future and shall not be processed for payments**. MDCC with new number shall then be issued with the remark **"MDCC BEING ISSUED INLIEU OF LOST ORIGINAL MDCC NO….. DATED……"**. Office copy of lost MDCC shall be suitably marked.

e. OUTPUT & RECORD:MATERIAL DESPATCH CLEARANCE CERTIFICATE (MDCC).

6) ASSOCIATED DOCUMENTS:

a. Format No.: QMS-P-07/F1- Material Dispatch Clearance Certificate.

b. Format No.:QMS-P-07/F2-Proposal for Issuing Conditional MDCC.

Material Dispatch Clearance Certificate (MDCC)

APGENCO

-: Material Despatch Clearance Certificate :-

Issuing Office : _____

Project Name : **MDCC NO:**

Package Name : **Date:**

Contract No. :

Contractor:Manufacturer:

The following Equipment/Materials have been released for despatch to site:

Sl.	I/C No.	BBU No.	Material Description	Quantity	Remarks

The above certificate is issued for the purpose of on account payment only and does not absolve the contractor of his responsibilities as per the terms of the contract.

SIGNATURE:

NAME :

DESIGNATION :

For and behalf of APGENCO

Format no. QMS-P-07/F1

PROPOSAL FOR ISSUING CONDITIONAL MDCC

(PROPOSAL INITIATEDBY _____)

NOTES: 1. INITIATING DEPTT. SHALL PROPOSE: A) THE CONDITIONS FOR THE ISSUE OF CONDITIONAL MDCC. B) THE AGENCY RESPONSIBLE TO CERTIFY THE COMPLIANCE OF CONDITIONS. C) THE LIKELY DATE OF COMLETION OF THESE CONDITIONS

2. INITIATING DEPTT. SHALL COORDINATE BETWEEN AGENCY RESPONSIBLE TO CERTIFY THE COMPLIANCE OF CONDITIONS & THE CONCERNED INSPECTION OFFICE, TILLTHE CLOSURE OF CONDITIONS OF MDCC.

FROM : **(INITIATING DEPARTMENT)** ***(Part I)***
REF. :
DATE :
SUBJECT: PROPOSAL FOR THE ISSUANCE OF CONDITIONAL MDCC

TO :
HEAD (QA & I)

PROJECT	*UNIT*	*CONTRACT NAME*	*PACKAGE NO.*	*MAIN SUPPLIER M/S….*	*SUB-SUPPLIER M/S*

DESCRIPTION OF ITEM/EQUIPMENT	BBU REF.	QTY.	REASON / JUSTIFICATION FOR CONDITIONAL MDCC	PROPOSED CONDITIONS IN MDCC	LIKELY DATE OF COMPLIANCE	AGENCY RESPONSIBLE TO CERTIFY COMPLIANCE OF CONDITIONS.
						KINDLY INTIMATE TO HOD (INITIATING DEPTT.) ON COMPLIANCE OF CONDITIONS ALONG WITH DOCUMENTS.

NAME:	DESIGN (NOT BELOW HOD):	SIGN:	DATE

COMMENTS BY ENGG.&QA

(Part II) **ACCEPTED / NOT ACCEPTED**

SIGNATURE : HEAD QA&I

NAME :

DESIGN: **DATE :**

FORWARDED TO:

InspectionEngineer …….

For issuance of MDCC as per conditions above. Enclose photocopy of this proposal along with MDCC for internal distribution.

(Part III) **ACTION BY** Inspection Engineer**:**

(Part IV) **ACTION BY Initiating Dept.:**

(Part V) **ACTION BY** Inspection Engineer**:**

TO: …… (Initiating Dept.) CC: QA **Conditional MDCC NO. Dated has been issued.** **Copy of approved proposal is being forwarded for monitoring and informing about the compliance of the conditions to enable us to revoke the conditions.** **NAME DESGN. SIGNATURE DATE**	**TO: Inspection Engineer ……** **The conditions have been complied. Letter to this affect is enclosed. Kindly revoke the conditions.** **NAME DESGN. SIGN. DATE**	**TO: …… (Initiating Dept.) CC:QA** **Conditions has been revoked vide our ref. …… dated …… on receipt of compliance.** **NAME DESGN. SIGNATURE DATE**

Format no. QMS-P-07/F2

HANDLING OF NON-CONFORMITIES

1) **PURPOSE:**To lay down guidelines for dispositioning of non-conformity/concession request due to non-fulfilment of a specified Quality requirements.

2) SCOPE:

a. This process covers the guidelines for dispositioning of request by a Supplier for approval of a non-conformity/concession request, for a limited quantity or time and for specific products during execution of a contract.

b. This process does not cover deviation sought by a bidder at the pre-contract stage. Such deviation shall be suitably evaluated in techno-commercial evaluation of bids.

c. This process also does not cover the request for a non-conformity from a specified quality requirement before start of manufacturing. Such requests should be dealt with by revision route of the document.

d. Dispositioning of the non-conforming material rejected during inspection and material to be reworked, to achieve the specified requirement (without any permanent repair) and subsequently offered for re-inspection by APGENCO is covered in Doc. No. QMS-P-06.

3) DEFINITIONS/ABBREVIATIONS:

a. Vocabulary as given in the Quality Management System Manual. However, important definitions relevant to this procedure are repeated below:

b. **Non-conformity - Non-fulfilment of a specified requirement:** The definition covers the departure or absence of one or more quality characteristics (including dependability characteristics), or quality system elements from specified requirements.

c. **Corrective/ Preventive Action:** Actions taken to eliminate the cause of an existing non-conformity, defect or other undesirable situation in order to prevent recurrence. The corrective/ preventive action may involve change in procedures and systems, to achieve quality improvement at all the stages of the quality loop.

d. There is a distinction between "correction" and "corrective action".

e. "Correction" refers to repair, re-work or adjustment and relates to the disposition of an existing non-conformity.

f. "Corrective action" relates to the elimination of the cause of a non-conformity.

g. **Repair:** Action taken on a non-conforming product so that it will fulfil the intended usage requirements although it may not conform to the originally specified requirements.

h. **Re-work:** Action taken on a non-conforming product so that it will fulfil the specified requirement.

i. **Non-Conformity Report:** Non Conformity Reports are formal requests as per Formats of this procedure from suppliers, to deviate from a specified quality requirement. Non-conformities are to be detected and reported.

j. **Disposition of Non-conformity:** Action to be taken to deal with an existing non-conforming product in order to resolve the non-conformity. The action may take the form of, for example, correction such as repair, re-grade, scrap, concession.

k. **Category 'A' Non-Conformities:** Category 'A' non-conformity is a “major” non-conformity which has a direct or indirect adverse effect on performance, reliability, safety, interchangeability, maintainability or working life of the material, equipment or service.

l. **Category 'B' Non-conformity:** Non-conformity not categorized as 'A' category, is considered as “Minor” and categorized as 'B' category.

m. **Supplier:** Main supplier on whom APGENCO awarded the contract for supply of equipment or services.

4) REFERENCES:

a. Pre-award QA Activities: (Doc.No.:QMS-P-01).
b. Post-award QA&I activities: (Doc.No.:QMS-P-02).
c. List of Controlled Documents and Records: (Doc.No.:QMS-P-03).

5) PROCESS:

a. **Input:**Non-conformity report in Format No.: QMS-P-08/F1, by the supplier for dis-positioning.

b. Resources:

i. QA Engineer.

ii. Technical Library,

iii. National/ International Standards.

iv. Knowledge Management System, if any.

v. Previous NCRs.

c. **Process:**

i. **Initiation/ General**:

ii. A non-conformance report shall be initiated by the supplier when product is observed non-conforming to the specified requirement during internal inspection or physical inspection/ review by APGENCO.

iii. On receipt of non-conformance report duly filled in by the supplier, QA&I will allot a unique running serial no. to theNC Report and then NC report shall be reviewed for NC details, availability of all supporting documents furnished by the supplier with his analysis of the cause of occurrence of NC and the proposed action.

iv. QA shall analyze the Non-conformity in order to ascertain the nature, cause and effect of the NC. Based on the criticality, HOD shall assign the category to the NC, either `A' or `B'.

v. For Category `A' NC, QA Group Head shall review & record his recommendations, **after discussions if necessary, with the Engineering group/ other concerned**, at the identified place on NCR Format. This will then be reviewed & approved or not approved, as the case may be, by Head (QA&I).

vi. Non conformities, which are recurring in nature, deviating from the approved practices & procedures, due to inadequacies in manufacturing practices & process capabilities, result of

carelessness/ negligence/ poor workmanship on the part of supplier need to be discouraged and supplier should be insisted to improve upon the process controls to facilitate the supply of conforming product or service.

vii. Non conformity disposition shall not be considered as complete until corrective action has been identified, agreed and effectively implemented in a time bound program.

viii. Final recommendations shall be recorded by QA & decision communicated to the Supplier & all concerned. If non-conformity is accepted, Inspectionshall verify implementation of correction.

ix. If NC is affecting the interchangeability for recommended/ mandatory/O&M spares, it is to be ensured that supplier has taken care of the required corrective mechanism to ensure proper fitment of spares with mother equipment.

x. For Category `B' non-conformity, QA Group Head will dispose of the NC. Corrections done are recorded & corrective actions may not be monitored.

d. **Control:**

i. Head (QA&I) shall monitor the NC dispensing & implementation of corrective action.

e. **Output&Record:**

i. Final decision on NCs as concurred by competent authority.Final decision shall be communicated to all concerned, i.e. Supplier, Inspection & QA.

6) ASSOCIATED DOCUMENTS:

a. Format No. : QMS-P-08/F1- Non-conformity Report for Manufacturing & Inspection Stages.

b. Format No. : QMS-P-08/F2- List & Status of Non-conformities observed.

Non-Conformity Report for Manufacturing & Inspection Stages

CONTRACT NAME & NO :_____

PACKAGE UNIT NO. :_____

SUPPLIER :_____

SUB-SUPPLIER :_____

PLACE OF MANUFACTURE :_____

NC NO. :_____

DATE: _____

CATEGORY OFNON- CONFORMITY

A ☐

REFER NOTE-2

B ☐

ITEM DETAILS

ITEM DESCRIPTION: _____ IDENTIFICATION NO. _____

RANGE/ SIZE/ TYPE: _____ QP NO: _____ CHP NO: _____

& CLAUSE NO.

STAGE OF NON-CONFORMITY ☐

DESIGN (A)/ RAW MATERIAL (B)/ ASSEMBLY(C)/ IN-PROCESS (D)-(SPECIFY) _____

STORAGE (E) / HANDLING (F) / TESTING (G) / ANY OTHER (H)-(SPECIFY) _____

NON-CONFORMITY-DESCRIPTION WITH CAUSE (Attach Relevant Drgs/ Details)

Proposed Disposition with Justification - (for correction)
(Note: Attach Details including design calculation)

Dispositioning Code ☐

REFER NOTE-6

STEPS TO PREVENT RECURRANCE-(FOR CORRECTIVE ACTION)

NAME & DESIGN SIG. OF SUPPLIER DATE _____ (SEAL)

ENCL: 1.

2.

Non-Conformity Report for Manufacturing & Inspection Stages

FINAL DISPOSITIONING BY QA GROUP HEAD **DISPOSITIONING CODE** ☐

REFER NOTE-6

DATE: NAME & DESIG. SIGNATURE:

RECOMMENDATION OF QA GROUP HEAD **DISPOSITIONING CODE**

FOR CATEGORY-A ***(ALONG WITH JUSTIFICATION FOR THE CAT-A)*** ☐

REFER NOTE-6

(Comments of ENGINEERING/ others, as applicable, to be considered)

THIS PAGE IS FOR INTERNAL USE ONLY
NOT TO BE PASSED ON TO OUT SIDE PARTY

GH NAME_____ SIGN._____DATE_____

HOD NAME_____ SIGN._____DATE_____

HEAD-QA&I NAME_____ SIGN._____DATE_____

Non-Conformity Report for Manufacturing & Inspection Stages

Annexure to format No.: QMS-P-08/F1

NOTES

1. PLEASE READ THESE NOTES CAREFULLY BEFORE FILLING UP AND ATTACH SEPARATE SHEETS WHEREVER REQUIRED.

2. CATEGORY 'A' NON-CONFORMITY IS DEFINED AS DEPARTURE FROM SPECIFICATION WHICH AFFECTS PERFORMANCE, RELIABILITY, SAFETY, INTERCHANGEABILITY, ERECTION, COMMISSIONING OR WORKING LIFE. ALL OTHER NON-CONFORMITES SHALL BE TREATED AS CATEGORY 'B'.

3. ACCEPTANCE OF DISPOSITIONED NON-CONFORMANCE IS WITHOUT PREJUDICE TO OWNER'S RIGHT TO CLAIM COMMERCIAL REBATE AND DOES NOT ABSOLVE SUPPLIER OF HIS CONTRACTUAL OBLIGATIONS.

4. OBTAINING APPROVAL OF STATUTORY AUTHORITY, IF ANY, W.R.T. ABOVE NON-CONFORMANCE, IS THE RESPONSIBILITY OF SUPPLIER.

5. DISPOSITIONING OF THIS NON-CONFORMANCE IS FOR THIS SPECIFIC CASE ONLY AND SHALL NOT BE REGARDED AS A PRECEDENCE.

6. THE NON-CONFORMITY SHALL BE DISPOSITIONED AS UNDER BY OWNER AND SUPPLIER. (GIVE CODE AT APPROPRIATE BOXES).
   (01) NC-REJECTED (02) NC-CONDITIONALLY ACCEPTED (SPECIFY CONDITION) (03) NC-ACCEPTED AS IT IS (04) NC-ACCEPTED WITH REPAIR

7. NC NUMBER - NC NO. SHALL BE ALLOTTED AS **XX-YYY**, WHERE XX WILL DENOTE THE CALENDAR YEAR & YYY SHALL DENOTE THE RUNNING SERIAL NUMBER.

RESPONSIBILITIES OF SUPPLIER

1. ASCERTAIN EXACT NATURE OF NON-CONFORMANCE AND DOCUMENT WITH SUPPORTING DRAWING/DETAILS.
2. IDENTIFY THE CAUSE OF NON-CONFORMITY.
3. DECIDE ON CODE OF DISPOSITIONING.
4. IDENTIFY THE PRODUCT APPROPRIATELY.
5. FINALISE THE CUASE OF NON-CONFORMITY AND PROPOSE CORRECTIVE ACTION.
6. ENSURE AND CERTIFY THAT THE PRODUCT QUALITY, PERFORMANCE, RELIABILITY AND WORKING LIFE IS NOT AFFECTED FOR MINOR NON-CONFORMITIES AND QUANTIFY THE EXTENT TO WHICH IT IS AFFECTED IN THE CASE OF CATEGORY 'A' NON-CONFORMITIES.
7. IMPLEMENT AGREED CORRECTIVE ACTION WITH A TIME-BOUND PROGRAMME.

Support to & Interaction with project sites

NC NO.	PROJECT/ PACKAGE/ CONTRACT NO.	SUPPLIER/ MANUFACTURER	ITEM	STAGE CODE/ CAT	BRIEF DESCRIPTION	DISP. CODE	COMPLICANCE OF CORRECTIVE ACTION

Support to & Interaction with project sites

1) **PURPOSE:**To provide guidelines and describe the activities, which interrelate QA&I to various Site groups for different functional responsibilities for Quality, support services and interaction.

2) **SCOPE:**The procedure covers various support services to be offered to Site by QA&I and vice–versa during construction phase of the Project. In addition, the procedure describes the activities for which routine interaction with Site are envisaged to be coordinated by QA&I. For ensuring the effectiveness of the Field activities for Quality, following activities are envisaged;

    a. Functional Guidance w.r.t. Quality issues shall be provided by QA&I to sites.

    b. All relevant inputs from QA to Site & Site to QA shall be processed as per relevant procedures.

    c. The inputs from QA&I to Site, shall be reviewed by respective Group Head/ HOD of QA before it is forwarded to site.

    d. QA&I shall arrange regular meetings with various Site groups from all sites, to exchange views on different Quality issues & policy matters.

3) **DEFINITIONS:**Vocabulary as given in the Quality Management System Manual.

4) REFERENCES:

    a. Procedure for Post Award QA Activities (Doc No : QMS-P-02)

    b. Procedure for Sub-supplier Assessment and Approval (Doc No: QMS-P04)

    c. Procedure for handling of Non–Conformities (Doc No: QMS-P-08)

    d. Procedure for Review and Approval of Quality Plans (Doc No: QMS-P-05)

5) PROCESS:

a. Inputs:

i. Input from QA&I to Site:

1. Following documents and support shall form inputs to site from QA&I provided from time to time.

2. Guidance on Organizational set up and functions of Field Quality.

3. Approved Field Quality Plans (FQP) for Equipment/ systems, as identified for various packages awarded for the Project.

4. Technical support and policy guidelines.

5. Resolution of Major non-conformities.

6. Head of Site shall receive information about any pending work/tests not performed at the manufacturing works on equipment but agreed to be carried out at site, when such materials are cleared for despatch to site by QA&I during special circumstances.

7. Quality Documentation package as per Contract for future reference.

ii. Inputs from Site to QA&I:

1. Following documents shall form input from Site which shall be provided to QA&I.

2. Reporting major non-conformities observed during execution of work at site.

3. Furnishing feedback on implementation status of Corrective actions, suggested during Quality Audit, Surveillance check carried out on various Field activities.

4. Furnishing feedback on equipment & Supplier performance at site.

5. Furnishing report on Major failures of equipmentduring commissioning and post -Commissioning operation, till closing of contracts.

6. Comments on FQP, if requested by QA&I.

Support to & Interaction with project sites

b. Resources:

i. Head(QA&I) shall identify a QA Engineer who shall co-ordinate with theProject Site.

c. Control:

i. Project co-ordinatorshall respond to Site queries (Equipment failure feedback/ NCRs etc.) immediately but not later than one week. Exceptions shall be brought to the notice of Head (QA&I).

ii. The inputs from QA&I to Site, shall be reviewed by respective Group Head/ HOD of QA before it is forwarded to site.

d. Output:

i. Site issue status report & Feedback report on Format No. QMS-P-09/F1.

e. Record:

i. Records of discussions in various co-ordination meetings, including regular Site group meets, Audit Reports, Failure analysis Reports &Exception reports received from sites, shall be maintained by HOD QA.

6) **ASSOCIATED DOCUMENTS:**

A. Doc. No. QMS-P-09/F1 - Feedback Report on Quality Related Issues.

Feedback Report on Quality Related Issues

PROJECT:

Sl.	Unit No. Stage*	Description and details of Equipment	Contract no./ Main Contractor	Details of deficiency	Corrective measures taken at site	Recommendation
		Description of equipment **Model No/ Rating:** **Sr.No/ID No:** **Manufacturer's name:** **Location:**				

*Stage:Storage/ Assembly/ Erection/ Commissioning/ Operation

Date: Signature:

Distribution: i) Head (Project) Name:

ii) Head (QA&I) Designation:

Monitoring of Inspection Calls and status reporting

1) **PURPOSE**: To provide guidelines related to registration of inspection calls, their effective planning/ scheduling, monitoring and dispositioning and updating of the status of call dispositioning.
2) **SCOPE**:The scope covers the receipt of Inspection calls to their final dispositioning for product realization. It also includes monitoring of holdup/ exception reports generated.
3) **DEFINITION**:Vocabulary as given in the Quality Management System Manual.

4) REFERENCES:

a. Pre-award QA Activities (Doc. No.: QMS-P-01).
b. Post-award QA&I activities (Doc. No.: QMS-P-02).
c. Review & approval of Quality Plans (Doc. No.: QMS-P-05).
d. Inspection, Testing & Issue of CHP Reports (Doc. No.: QMS-P-06).
e. Issue & Control of MDCC ((Doc. No.: QMS-P-07).

5) PROCESS:

a. **Input**:

i. All Inspection calls by the Suppliers

ii. Proposed date of Inspection,

iii. No. of days expected to be consumed in inspection,

iv. Category of Inspection,

v. priority of the Equipment,

vi. availability of the Inspection Manpower

b. **RESOURCES:**

i. Inspection Engineer.

c. **Process**:

i. All Inspection calls by the Suppliers shall be assigned unique Inspection Call (IC) Number for clear reference.

ii. The Inspection calls shall be reviewed and verified for the use of correct Inspection Call format and its completeness w.r.t. the required details.If the call is found to be satisfactory on verification,

same shall be further processed for planning. In case, certain inputs are incomplete, or any document, required for carrying out theinspection, is not approved/available, the call shall be closed then & there and shall not be planned, with intimation to the agency originating the call.

iii. Inspection calls shall be planned for the coming week, keeping in mind the proposed date of Inspection, No. of days expected to be consumed in inspection, Category of Inspection, priority of the Equipment, availability of the Inspection Manpower etc. and detailed Weekly planning sheet in the format QMS-P-10/F1 shall be prepared.

iv. From the above weekly planning sheet, a Weekly planning grid for all Inspection Engineers shall be prepared on format QMS-P-10/F2, from which individual Inspection Engineers shall note their individual assignments. The respective Inspection Engineers will then inform the concerned Suppliers & Manufacturers, the schedule of inspection.

v. After the inspection, inspection dispositioning status shall be updated in the Inspection planning sheet. Wherever, no further action is envisaged, those inspection calls shall be treated as closed and suitably archived. However, for the calls having any hold-ups or exception (disposal code starting with 'X'), such cases shall be separated and a list prepared in format QMS-P-10/F3 for their monitoring & liquidation.

vi. The inspection calls with hold-ups/ exceptions shall remain available with the Inspection Engineer, till its final dispositioning. Inspection Engineer shall monitor such cases and take necessary action to dispose of the exception. Inspection Engineer shall be responsible for bringing all the issues raised in the CHP report, to their logical conclusion and his responsibility will end with issuance of a final closing CHP after declaring the item accepted/ rejected.

vii. It is desirable that a suitable Inspection Software is developed for handling the massive data expected to be generated, for effectiveness of the monitoring.

d. **CONTROL:**

i. Time frame for attending the inspection calls shall be tightly monitored.

ii. All review/COC cases, shall be targeted for attending and disposal, within 5 working days.

iii. All inspection calls, involving physical inspection, shall be targeted for attending within 10 working days from date of receipt of Inspection Call, provided the proposed dates fall within this period.

iv. Any exception to the above shall be reviewed by the Group Head, for necessary action.

v. Exceptions, which are more than 15 days old, shall be reviewed by Head (QA&I), on weekly basis and necessary action shall be taken to resolve exceptions expeditiously. Reminders shall be given, wherever necessary, to the concerned department, for necessary action at their end.

e. **OUTPUT:**

i. Detailed weekly planning report in Format No.: QMS-P-10/F1.

ii. Weekly planning grid for Inspections, in Format No. QMS-P-10/F2.

iii. Exception Report in Format No. QMS-P-10/F3.

f. RECORDS:

i. Inspection Call Planning Report, Weekly Planning Grid & Inspection Exception reports.

6) **ASSOCIATED DOCUMENTS:**

a. Format No. QMS-P-10/F1- Inspection Call Planning Report.
b. Format No.QMS-P-10/F2- Weekly Planning Grid.
c. Format No. QMS-P-10/F3- Inspection Exception Report.

Inspection Calls Planning Reports
From to

IC NO.	CONTRACTOR/ SUB-CONTRACTOR	CONTRACTNO. / CONTRACT NAME	ITEM DESCRIPTION	RECEIPT/ PROPOSED/ PLANNED/ INSPECTION DATE (S)	INSPECTION BY	DISP. CODE

Remarks:
Prepared by
Reviewed by
Name Designation Signature

Distribution: Group Head-Inspection Head(QA&I)

Summary of Weekly Planning Grid
From to

DATE	NAME / PLACE														

Remarks:

Distribution:GroupHead- Inspection / Head (QA&I)

Prepared by
Reviewed by

Name Designation Signature

Inspection Exception Status Report

From to

IC NO.	CONTRACTOR/SUB -CONTRACTOR	CONTRACT NUMBER/ CONTRACT NAME	ITEM DESCRIPTION	RECEIPT/ PROPOSED/ PLANNED/ INSPECTION DATE	CHP/MDCC NUMBERS	DISPOSTION CODE/ ACTION BY

Remarks:

Prepared by
Reviewed by

Name Designation Signature

Distribution: Group Head- inspection/ Head(QA&I)

Standardization Activities

1) **PURPOSE**: To provide guidelines for review, approval & control of "Reference Quality Plans"(RQP), "Reference Field Quality Plans" (RFQP), and preparation finalization, review, approval & control of "Standard Quality Plans"(SQP) and Standard Field Quality Plan (SFQP) and their endorsement for applicability to specific Contract/ Package.
2) **SCOPE:**This procedure covers review, approval and Control of RQPs, RFQPs, SQPs and SFQPs.
3) **DEFINITIONS:**
    a. Vocabulary as given in the Quality Management System Manual. Important definitions relevant to the procedures are given below;
    b. **Reference Quality Plan (RQP):** is finalized with an individual Manufacturer, who has a good supply record of supplies to APGENCO. This refers to the specific quality practices and procedures being followed by the manufacturer, relevant to a particular component, part or material used for the product being manufactured, without the reference of particular contract/ project. RQP is required to be reviewed and endorsed for a specific contract, upon the request of the Contractor & the Manufacturer, with whom such RQP has been finalized. RQPs are generally valid for three (3) years from the date of approval.
    c. **Reference Field Quality Plan (RFQP)**: is finalized with the Main Contractor, who has a good performance record at APGENCO sites. This refers to the specific quality practices and procedures being followed by the contractor, relevant to a particular system/ equipment to be erected, without the reference of particular contract/project. RFQP is required to be reviewed and endorsed for a specific contract, upon the request of the contractor, with whom such RFQP has been finalized. RFQPs are generally valid for three (3) years from the date of approval.
    d. **Standard Quality Plan (SQP):** is a document setting out the standard quality practices and procedures, specified by APGENCO,which are to be followed by all the manufacturers, for a particular component, part or material without the reference of particular contract/project. Items which are standardized, in respect of material, process, test and inspection and do not vary from manufacturer to manufacturer, shall beconsidered for finalization of SQPs. Further, Items where the manufacturing process (like Fabrication, Forging) parameters are standard and do not change significantly due to the size, class, rating or from one manufacturer to another manufacturer, shall also be considered for finalization of SQP.

e. **Standard Field Quality Plan (SFQP):** is a document setting out the standard quality practices and procedures followed by APGENCO, to be followed by all Contractors, relevant to a particular system/ equipment to be erected, without the reference of particular contract/project.

f. Standard Quality Plan (SQP) and Standard Field Quality Plan (SFQP), once finalized, remain same from Manufacturer to Manufacturer/ Project to Project, unless a change is considered necessary.

4) REFERENCES:

a. Pre-award QA Activities (Doc.No.: QMS-P-01).
b. Post-award QA &I Activities (Doc.No.: QMS-P-02).
c. Review and approval of Quality Plans (QMS-P-05).

5) PROCESS:

A. <u>REFERENCE QUALITY PLANS (RQP):</u>

i. Inputs

1. Group Head/ HOD shall identify the component, part or material, for which RQP is to be made with a Manufacturer or Contractor, based on his consistent good performance in the past and repeated requirement of equipment/material.
2. Manufacturers' approval status and conditions of approval, if any.
3. Quality Plan in Format No.: QS-P-11/F1.

ii. Resources:

1. Technical specifications including Engineering documents (i.e. drawings/data sheets etc.), as applicable.
2. Manufacturer's practices and procedures, Scope of testing, based on manufacturer's Plant standard, manufacturing drawings.
3. National / International Standards.
4. Statutory requirements (QA&I related)
5. Approved Quality Plan for similar item, of same or other manufacturer.
6. Feedback received in the past.
7. Comments on earlier submission of RQP (in case of re-submission).
8. QA Engineer.

Standardization Activities

iii. Process:

1. Preparation of RQP:

a. Manufacturer of equipment or the product or material shall prepare the Reference Quality Plan (RQP).

b. RQP shall be submitted for review, along with reference standards for system equipment, referred therein.

c. The RQP shall be a detailed document covering various stages of manufacture, like Raw material,In-process, Final testing and Packaging prior to despatch. RQP shall specify respective stage wise checks during manufacturing.

d. RQP shall be in line with the Manufacturer's Plant Standards, National/International standards, relevant drawing/data sheet, specification and statutory requirements, as applicable.

e. QA Engineer and respective Group Head shall review the RQP in respect of;compliance to the Inputs and Resources, Identification of the CHP points, requirement of documentation etc.

f. The RQP shall be screened by the Group Head of respective discipline before forwarding to HOD, for review and approval. Any comments on the contents of RQP, shall be discussed by HOD with Group Head of respective discipline for resolution. The review and approval by HOD shall be as per divisional procedure QMS-P-05.

g. On review of RQP, Comments/clarifications/ details required, shall be informed to the Manufacturer,who shall re-submit the RQP, after analyzing & incorporating/ clarifying the comments suitably.

iv. Control:

1. A unique RQP number shall be allotted and controlled by HOD at the time of approval.1st approved version of RQP shall be allotted Revision no. as '0' (original) and subsequent revision to be numbered as 1, 2…. etc.
2. APGENCO may ask for revision of any RQP within the validity period, in case of change in design/ drawing/ datasheets,

change in manufacturing process/ test procedures/ acceptance norms, amendments in any of the relevant standard/ specifications or to take care of any feedback.

3. Similarly, the manufacturer may also ask for revision of his RQP within the validity period, in case there is a change in the design, drawing, data sheet, material, manufacturing process/ technology, inspection and testing requirement of the item.
4. QA Engineer shall maintain all RQP revisions. Obsolete documents shall be marked "SUPERSEDED".

v. **Output:**Commented RQP/ Approved RQP.

b. APPLICATION OF RQP IN A SPECIFIC CONTRACT BY ENDORSEMENT:

i. Input:

1. Request by Contractor for application of a RQP, through Endorsement Sheet on format No.:QMS-P-11/F-5,against a specific contract. All required fields, including changes sought shall be clearly mentioned.

ii. Review:

1. QA Engineer shall verify the details of request w.r.t. requirements of the contract and shall accord endorsement on the Endorsement sheet, making the RQP applicable to the specific contract, after allotting Contract specific unique QP number.However, in case the changes in the item, necessitates major changes in RQP, then a revisedRQP or Contract specific QP shall be asked from the Contractor/ Manufacturer.

iii. Control:

1. Approval from Group Head shall be taken, prior to communication to the Contractor.
2. Contract specific unique QP number shall be allotted on the endorsement sheet.
3. The RQP, once endorsed for a particular contract, shall remain valid for the specific contract even though the original RQP may have expired or may be revised, unless/ otherwise mutually agreed with the Contractor.

iv. Output & Record:

1. Approved Endorsement Sheet, applying RQP for a specific contract.

Standardization Activities

c. REFERENCE FIELD QUALITY PLAN (RFQP):

i. Inputs

1. Group Head / HOD shall identify the items/ Systems for which RFQP is to be made based on System Contractor's consistent good performance in past and repeated requirement of the item/ system.
2. Quality Plan in Format No.: QS-P-11/F2.

ii. Resources:

1. Technical specifications including Engineering documents (i.e. drawings/data sheets etc.), as applicable.
2. Contractor's practices and procedures, Scope of testing, based on Contractor's Erection standards, Erection drawings.
3. National / International Standards.
4. Statutory requirements (QA&I related)
5. Approved FQP for similar item/ system, of same or other Contractor.
6. Feedback received in the past.
7. Comments on earlier submission of RFQP (in case of re-submission).
8. QA Engineer.

iii. Process:

1. **Preparation of RFQP:**
2. System Contractor shall prepare the Reference Field Quality Plan (RQP).
3. RFQP shall be submitted for review, along with reference standards for system/ equipment, referred therein.
4. The RFQP shall be a detailed document covering various stages of site activities, like Material Receipt,Material Storage, Pre-erection and Equipment/ System Erection. RFQP shall specify respective stage wise checks during erection.
5. RFQP shall be in line with the Contractor's Erection Standards, National/International standards, relevant drawing/data sheet, specification and statutory requirements, as applicable.
6. QA Engineer and respective Group Head shall review the RFQP in respect of;compliance to the Inputs and Resources, Categorization of Class of Checks, requirement of documentation etc.

7. The RFQP shall be screened by the Group Head of respective discipline before forwarding to HOD, for review and approval. Any comments on the contents of RQP, shall be discussed by HOD with Group Head of respective discipline for resolution. The review and approval by HOD shall be as per divisional procedure QMS-P-05.
8. On review of RFQP, Comments/clarifications/ details required, shall be informed to the Contractor,who shall re-submit the RFQP, after analyzing & incorporating/ clarifying the comments suitably.

iv. Control:

1. A unique RFQP number shall be allotted and controlled by HOD at the time of approval.1st approved version of RQP shall be allotted Revision no. as '0' (original) and subsequent revision to be numbered as 1, 2…. etc.
2. APGENCO may ask for revision of any RFQP within the validity period, in case of change in design/ drawing/ datasheets, change in erection process/ test procedures/ acceptance norms, amendments in any of the relevant standard/ specifications or to take care of any feedback.
3. Similarly, Contractormay also ask for revision of his RFQP within the validity period, in case there is a change in the design, drawing, data sheet, material, erection process/ technology, inspection and testing requirement of the item.
4. QA Engineer shall maintain all RQP revisions. Obsolete documents shall be marked "SUPERSEDED".

v. Output:

1. Commented RFQP/ Approved RFQP.

d. APPLICATION OF RFQP IN A SPECIFIC CONTRACT BY ENDORSEMENT:

i. Same as that for RQP.

e. STANDARD QUALITY PLANS (SQP):

i. Inputs

1. Group Head/ HOD shall identify the items for which SQP is to be made based on standard nature of the items and repeated requirement of the items.
2. Quality Plan in Format No.: QS-P-11/F3.

Standardization Activities

ii. Resources:

1. Technical specifications including Engineering documents (i.e. drawings/data sheets etc.), as applicable.
2. Scope of Testing as per National / International Standards/ Technical Specs. / Engineering documents.
3. Statutory requirements (QA&I related)
4. Approved QP for similar item.
5. Feedback received in the past.
6. Experienced QA Engineer.

iii. Process: Preparation of SQP:

1. QA Engineer shall prepare the Standard Quality Plan (SQP).
2. The SQP shall be a detailed document covering various stages of manufacture, like Raw material,In-process, Final testing and Packaging prior to despatch. SQP shall specify respective stage wise checks during manufacturing.
3. SQP shall be in line with the Industry practice, National/International standards, relevant drawing/data sheet, specification and statutory requirements, as applicable.
4. Respective Group Head shall review the SQP in respect of;compliance to the Inputs and Resources, Identification of the CHP points, requirement of documentation etc.
5. The SQP shall be screened by the Group Head of respective discipline before forwarding to HOD, for review and approval. Any comments on the contents of SQP, shall be discussed by HOD with Group Head of respective discipline for resolution. The review and approval by HOD shall be as per divisional procedure QMS-P-05.

iv. Control:

1. A unique SQP number shall be allotted and controlled by HOD at the time of approval.1st approved version of SQP shall be allotted Revision no. as '0' (original) and subsequent revision to be numbered as 1, 2…. etc.
2. Revision of any SQP within the validity period may be undertaken, in case of change in design/ drawing/ datasheets, change in manufacturing process/ test procedures/ acceptance norms, amendments in any of the relevant standard/ specifications or to take care of any feedback.

3. QA Engineer shall maintain all SQP revisions. Obsolete documents shall be marked "SUPERSEDED".

v. Output: Approved SQP.

f. APPLICATION OF SQP IN A SPECIFIC CONTRACT BY ENDORSEMENT:

i. Same as that for RQP. Name of approved manufacturing works & approval conditions shall be put on the Endorsement Sheet.

g. STANDARD FIELD QUALITY PLAN (SFQP):

i. SFQP shall be prepared, reviewed, approved and endorsed in similar manner as SQP, except that the format no. used shall be QMS-P-11/F4.

6) ASSOCIATED DOCUMENTS:

a. Format No. QMS-P-11/ F1- Reference Quality Plan.
b. Format No. QMS-P-11/ F2- Reference Field Quality Plan.
c. Format No. QMS-P-11/ F3- Standard Quality Plan.
d. Format No. QMS-P-11/ F4- Standard Field Quality Plan.
e. Format No. QMS-P-11/ F5- Endorsement Sheet for Quality Plan.

Reference Quality Plan

Mfgr's Logo	MANUFACTURER'S NAME AND ADDRESS	REFERENCE QUALITY PLAN			*APGENCO*	TO BE FILLED IN BY APGENCO	
		ITEM /EQUIPMENT : SUB-SYSTEM :	QP NO.: REV. NO.: DATE : PAGE..... OF....	SIGN. OF MFGR'S	QP NO.: REV. NO.: DATE : PAGE..... OF.... *VALID UPTO:*	REVIEWED BY:	APPROVED BY:

SL. NO	COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK		REFERENCE DOCUMENT#	ACCEPTANCE NORMS	*Format of* RECORD	AGENCY			REMARKS
					M	C/A				M	C	A	
1.	2.	3.	4.	5.	6.		7.	8.	9.	D*	**	10.	11.

LEGEND: * RECORDS, INDENTIFIED WITH "TICK" (√) SHALL BE ESSENTIALLY INCLUDED BY SUPPLIER IN QA DOCUMENTATION.

** M: MANUFACTURER/SUB-SUPPLIER C: MAIN SUPPLIER, A: APGENCO P: PERFORM W: WITNESS AND V: VERIFICATION. AS APPROPRIATE, CHP: APGENCO SHALL IDENTIFY IN COLUM "A" AS 'W'

Note:# Inspection Engineer to check, approval date/ revision no. of reference documents at the time of Inspection

FORMAT NO.: QMS-P-11/F1 PAGE 1 OF

Reference Field Quality Plan

Supplier's Logo	SUPPLIER'S NAME AND ADDRESS	REFERENCE FIELD QUALITY PLAN			*APGENCO*	TO BE FILLED IN BY APGENCO	
		SYSTEM/ EQUIPMENT : SUB-SYSTEM :	QP NO.: REV. NO.: DATE : PAGE..... OF....	SIGN. OF SUPPLIER'S	QP NO.: REV. NO.: DATE : PAGE..... OF.... *VALID UPTO:*	REVIEWED BY:	APPROVED BY:

SL. NO	ACTIVITY AND OPERATION	CHARACTERISTICS / INSTRUMENTS	CLASS# OF CHECK	TYPE OF CHECK	Quantum OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE Norms	*Format of Record*		REMARKS
1.	2.	3.	4.	5.	6.	7.	8.	9.	D*	10.

LEGEND: * RECORDS, INDENTIFIED WITH "TICK" (√) SHALL BE ESSENTIALLY INCLUDED BY SUPPLIER IN QA DOCUMENTATION.

LEGEND TO BE USED: CLASS #: A = CRITICAL, B=MAJOR, C=MINOR; **'A'** SHALL BE WITNESSED BY APGENCO QUALITY, **'B'** SHALL BE WITNESSED BY APGENCO ERECTION/ CONSTRUCTION DEPTT. AND **'C'** SHALL BE WITNESSED BY MAIN SUPPLIER (A & B CHECK SHALL BE CHP STAGE)

FORMAT NO.: QMS-P-11/F1 PAGE 1 OF

Standard Quality Plan

APGENCO	ITEM (MATERIAL, CLASS, GRADE, RATING, RANGE, SIZE ETC.):	STANDARD QUALITY PLAN CONFORMING TO CODE:	QP NO.: REV. NO: DATE : PAGE..... OF.... *VALID UPTO :*	REVIEWED BY:	APPROVED BY:

SL. NO	COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK		REFERENCE DOCUMENT	ACCEPTANCE Norms	*Format of* RECORD		AGENCY			REMARKS
					M	C/ A					M	C	A	
1.	2.	3.	4.	5.	6.		7.	8.	9.	D*	** 10.			11.

LEGEND: * RECORDS, INDENTIFIED WITH "TICK" (√) SHALL BE ESSENTIALLY INCLUDED BY SUPPLIER IN QA DOCUMENTATION.

** **M:** MANUFACTURER / SUB-SUPPLIER **C:** MAIN SUPPLIER, **A**: APGENCO **P:** PERFORM **W**: WITNESS AND **V:** VERIFICATION. AS APPROPRIATE,

CHP: APGENCO SHALL IDENTIFY IN COLUMN "A" AS 'W'.

Standard Field Quality Plan

APGENCO	SYSTEM EQUIPMENT SUB-SYSTEM	STANDARD FIELD QUALITY PLAN CONFORMING TO CODE:	QP NO.: REV. NO.: DATE : PAGE..... OF.... VALID UPTO	REVIEWED BY:	APPROVED BY

SL. NO	ACTIVITY AND OPERATION	CHARACTERISTICS / INSTRUMENTS	CLASS# OF CHECK	TYPE OF CHECK	Quantum OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE Norms	*Format of Record*		REMARKS
1.	2.	3.	4.	5.	6.	7.	8.	9.	D*	10.

LEGEND: * RECORDS, INDENTIFIED WITH "TICK" (√) SHALL BE ESSENTIALLY INCLUDED BY SUPPLIER IN QA DOCUMENTATION.

LEGEND TO BE USED: CLASS #: A = CRITICAL, B=MAJOR, C=MINOR; 'A' SHALL BE WITNESSED BY APGENCO QUALITY**'B'** SHALL BE WITNESSED BY APGENCO ERECTION/ CONSTRUCTION DEPTT. AND **'C'** SHALL BE WITNESSED BY MAIN SUPPLIER (A & B CHECK SHALL BE APGENCO CHP STAGE)

FORMAT NO.: QMS-P-11/F4 **PAGE 1 OF 1**

Endorsement Sheet

ENDORSEMENT SHEET FOR QP REFERENCE / *STANDARD* / FIELD QUALITY PLAN (RQP / SQP/*RFQP/SFQP*)			
TO BE FILLED IN BY SUPPLIER AT TIME OF SUBMISSION		*APGENCO*	To be filled in by APGENCO
PROJECT NAME		*REVIEW & ENDORSEMENT BY APGENCO*PROJECT SPECIFIC QP NUMBER ALLOTTED QP NO.: REV. NO.: DATE: ** The RQP/SQP/RFQP/SFQP once endorsed for a particular contract shall remain valid even though the original QP may have expired or revised, unless / otherwise mutually agreed with the supplier.①	
CONTRACT NO			
CONTRACT NAME			
MAIN SUPPLIER			
MANUFACTURER WORKS & ADDRESS	M/S		
ITEM /EQUIPMENT / SYSTEM/ SUB-SYSTEM DETAILS i.e. MODEL TYPE / SIZE /RATING etc.			
APPROVED QP NO.: RQP/SQP/RFQP/SFQP	REV. NO.: DATED**:		
Confirmation by Main Supplier (TICK WHICHEVER APPLICABLE)		*(TICK APPLICABLE)*	
I. That the item/ component is identical to that considered for QP approval. OR.		The QP is endorsed for this project without any change	
II. That there are minor changes in the item/ component with respect to that considered for QP approval, however the same do not affect the contents of QP. OR			
III. That there are minor changes in the item/ component with respect to that considered for QP approval, however the same affect the QP slightly, as indicated below/ in attached sheet.		The QP is endorsed for this project with changes as indicated.	

Endorsement Sheet

		DISTRIBUTION OF ENDORSEMENT OF A) RQP/ SQP: *1. MAIN SUPPLIER (WITH A COPY OF QP)* *2. MANUFACTURER* *3. INSPECTION* *4. OFFICE COPY* B) RFQP/ SFQP: *1. MAIN SUPPLIER (with a copy of QP)* *2. APGENCO SITE* *3. OFFICE COPY*
SIGN.: (Main Supplier) *DATE*	*SIGN.: (Manufacturer)* *DATE:*	APGENCO (Reviewed /Approved by/ Date & Seal)

Format no. QMS-P-11/F5

Quality System Audit

1) **PURPOSE:**To provide guidelines for uniform approach in the process of Quality Systems Audit of (I) Suppliers/ Sub-Suppliers by APGENCO QA&I, at their Manufacturing Works/ Premises and (II) APGENCO Project Sites.

2) **SCOPE:**Quality Systems Audit by APGENCO QA&I of:

   a. Manufacturing Works/Premises of Contractors and their Sub-Contractors.

   b. APGENCO Project Sites/ Stations during Construction/ Erection.

3) DEFINITION:

   a. Vocabulary as given in the Quality Management System Manual. However, important definitions relevant to this procedure are given below;

   b. **Audit:**Systematic and independent examination of Quality of Works/ Procedures/ Processes/ Systems adopted in various activities to determine whether these activities are performed in accordance with laid down Quality Plans/ Procedures/Systems/Codes/arrangements and these laid down requirements are complied with to achieve intended objectives.

   c. **Auditor(s):**Person(s) identified and nominated to take the role of Auditor(s) in the Audit Team. Audit team members shall be duly trained for internal/ external Audit work.

   d. **Team Leader:** Person identified and nominated to take lead role and in-charge of the Audit Team.

   e. **Quality System Audit:** Audit of Quality Systems or elements thereof.

   f. **Quality System:** Organizational structure, procedures, processes, systems and resources needed to implement Quality Management.

4) REFERENCES:

   a. Pre-award QA Activities: (Doc. No.: QMS-P-01).

   b. Post-award QA&I activities: (Doc. No.: QMS-P-02).

5) RESOURCES:

   a. Skilled QA Engineers
   b. LOA, Technical Specifications
   c. ISO: 9000 System of Standards

Quality System Audit

6) PROCESS:

a. Inputs:

i. Following inputs are arranged by the Team Leader:

ii. Concerned Quality Plans, Specifications, Standards, Codes, etc.

iii. Feedback on the performance of the Auditee Organisationfrom Inspection Engineers/ Sites.

iv. Opportunity for Improvement Notes (OFINs) given to the Auditee Organisation during previous Audits and compliance status thereof.

v. Previous Quality System Audit Report of the Auditee Organisation.

vi. Quality Systems applicable to the Auditee Organisation.

vii. Confirmation from the Auditee's Organisation/ Head of the Project for the Audit programme.

b. Process:

i. The Audit of the Quality Systems of Contractors/ Sub-Contractors at their manufacturing works as well as the work at Project Sites, is undertaken with a view to review the adequacy and effectiveness of implementation of the Quality System applicable to the Auditee Organisation and to provide feedback to the Head of the Auditee Organisation, based on the Audit findings, so as to advise for initiating corrective action. For this purpose, in the beginning of every financial year, calendar of Audit activities covering various Contractors/ Sub-Contractors manufacturing works, APGENCO Projects in construction, shall be prepared by the Head (QA&I. This Audit Plan shall be reviewed after six (6) months. Audit schedule shallbe formally intimated by the Head (QA&I) to Head of the Auditee Organisation and confirmation of programme shall be obtained in writing prior to taking up the Audit.

ii. The constitution and number of members in the team will depend upon the nature of work and areas to be audited. For Audit of complex and large works, more than one team may be deputed.

Similarly for Project Sites, more than one team, depending upon the areas of work being audited, may be deployed. For Audit of manufacturing works, in each audit team, one member from Inspection, under whose jurisdiction, such works are located,may suitably be included. Similarly for Audit at Site, one member from Site Quality (from Site other than the Auditee Site) may suitably be included. The Audit Team shall be notified by Head (QA&I) including Audit Team Leader.

iii. One coordinator for each Audit team, shall be nominated by the Auditee Organization.

iv. The Team Leader shall, if required, prepare Audit guidelines i.e. areas that need to be looked into specifically and aspects to be examined during Audit by various Audit Team members. Depending upon the magnitude and nature of observations and non-compliance with Quality Systems detected in earlier Audit, Auditor shall adopt suitable sampling plan before the Audit. Audit shall be carried out with reference to Quality Systems/Standards/Procedures/Work instructions applicable to Auditee Organization.

v. Casesof serious observations, which are affecting the Quality Control System, shall be classified as OFIN (Non-conformity). The Audit Report will clearly highlight such OFIN (Non-conformity) for focused corrective action on priority.Format No.: QMS-P-12/F1 for Quality System Audit of manufacturing activities and format No.:QMS-P-12/F2 for Quality System Audit of Construction activities at Project Site, shall be used for recording the observations as Opportunity for Improvement Note (OFINs).

vi. At the end of Audit, the Audit Team Leader shall brief the Auditee Organization, in a closing meeting, to be attended by the representatives of the audited areas, on the summary findings of Audit, including critical issues needing immediate attention.

vii. The Report of the Audit is prepared as OFINS (Opportunity for Improvement Notes), as per the formats mentioned above. This Report is signed by the Team Leader and representative of the AuditeeOrganization. The Report shall be put up to Head (QA&I) for

review & approval. The copy of the approved Report shall be sent to the Head of the Auditees Organization. Copies of the Report would also be sent to the Senior Management of APGENCO for information.

viii. Auditee Organization shall be responsible for the corrective/ preventive action and the closure of all OFINs within reasonable time. Auditee will be asked to submit to Head (QA&I), the proposed actions to be taken, in a time bound schedule. The OFINs shall be closed expeditiously as per their closure schedule. Auditee Organization shall send the Action Taken Report on the proposed corrective and preventive actions as per the schedule, on regular basis, till all OFINs stand closed.

ix. A member from the Audit Team shall be identified as Convener/Coordinatorwhoshall be responsible for further follow up & closure of all OFINs at the earliest.

x. In case of any major departure, where additional facilities are required for augmentation at the Auditee's Organization, it shall be highlighted in the report, with reasons thereof, and improvements required to be implemented by the Auditee Organization.

xi. For illustration, Appendix-A gives the flow chart of the Audit activities.

c. **CONTROL:**A follow up Audit, based on Auditee's corrective actions, may be planned, as per requirement.

d. **OUTPUT:**Audit Report.

e. **RECORDS:**Maintenance of records shall be as per Doc. No.: QMS-P-03 (List of Controlled Documents and Records).

7) ASSOCIATED DOCUMENTS:

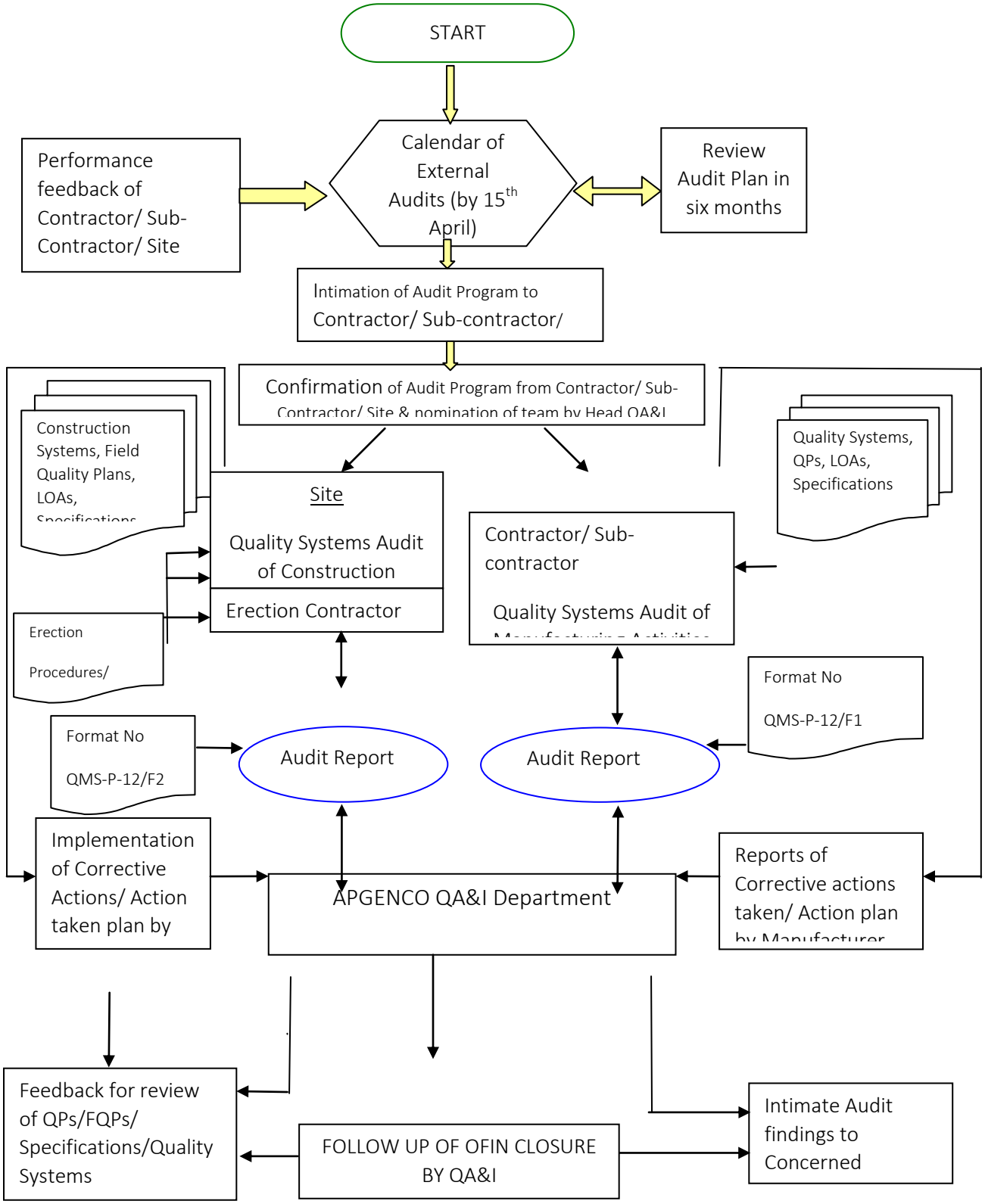
a. Format No.: QMS-P-12/F1- OFIN for Quality System Audit of Manufacturing Activities.

b. Format No.: QMS-P-12/F2- OFIN for Quality System Audit of Construction Activities at Site.

Appendix - A

APPENDIX-A

FLOW CHART FOR EXTERNAL QUALITY SYSTEM AUDITS



APGENCO

(QUALITY ASSURANCE & INSPECTION SERVICES)

(QUALITY SYSTEM AUDIT OF MANUFACTURING ACTITIVITIES OF CONTRACTOR / SUB- CONTRACTOR)

OPPORTUNITY FOR IMPROVEMENT NOTE

Audit Report No.: **Date:**

Auditee's Quality System Manual Ref.: OFIN. No:

Section No.: **Clause No.:**

Description of Opportunity for Improvement**:**

Auditee's Signature **Auditor's Signature**

Proposed Corrective & preventive action plan: (To be filled in by Auditee in duplicate and one copy be sent back to Head (QA & I) APGENCO)

Scheduled date of completion:

Auditee's Name: **Designation:** **Signature:** **Date:**

APGENCO

(QUALITY ASSURANCE & INSPECTION SERVICES)

(QUALITY SYSTEM AUDIT OF CONSTRUCTION ACTITIVITIES AT PROJECT SITE)

OPPORTUNITY FOR IMPROVEMENT NOTE

Audit Report No.: **Date:**

Auditee's Quality System Manual Ref.: OFIN. No:

Section No.: **Clause No.:**

Description of Opportunity for Improvement**:**

Auditee's Signature **Auditor's Signature**

Suggestion / Recommendation (optional):

Auditor's Name: **Designation:** **Signature:** **Date:**

Proposed Corrective & preventive action plan: (To be filled in by Auditee in duplicate and one copy be sent back to Head (QA & I) APGENCO)

Scheduled date of completion:

Auditee's Name: **Designation:** **Signature:** **Date:**

GLOSSARY

Accept-as-it-is: A disposition which may be imposed for non- conformance when it can be established that the discrepancy will result in no adverse conditions and that the item under- consideration will continue to meet all engineering functional requirements including performance, maintainability, fitness to use and safety.

Assessment: An appraisal to evaluate the Contractor/ Sub-Contractor's manufacturing, testing and quality management systems to ensure that:

- Contractor/ Subcontractor is capable of manufacturing the product as per specific requirement.
- Contractor/ Subcontractor is reliable in terms of consistency of quality.

Calibration: A comparison between a standard or measuring equipment, instrument or items of equipment with a standard or higher accuracy to detect, correlate, adjust and documents the accuracy of the instrument or equipment item being compared or tested.

C.H.P. :CHP "Customer Hold Point" is a stage identified by customer in Quality Plan, which is to be offered to customer on its authorised representative for witnessing, verification or review, beyond which work will not proceed without written consent of the Inspecting Authority.

Contractor: Contractor shall mean the agency on whom the contract has been awarded by the owner.

Corrective action: Action taken to eliminate the cause of an existing non-conformity, defect or other undesirable situation in order to prevent recurrence. The corrective actions may involve changes, such as procedures and systems, to achieve quality improvement at any stage of the quality loop.

There is a distinction between "correction" and "corrective action".
"**Correction**" refers to repair, rework or adjustment and relates to the disposition of an existing non-conformity.
"**Corrective action**" relates to the elimination of the causes of a non-conformity.

GLOSSARY

Data Book: Manufacturer's data book provides the record of observations clearances, test results, material certificates etc. of equipment during the manufacture.

Despatch Schedule: A document mutually agreed between purchaser and equipment supplies for the sequential and timely despatch of materials required at site.

Disposition of Non-conformity: Action to be taken to deal with an existing non-conforming entity in order to resolve the non-conformity.

The action may take the form of, for example, correction such as repair or rework, regrade, scrap, concession and amendment of a document or a requirement.

Disposition: Instructions for acceptance or rejection of re-work or non-conformities.

Engineer: The officer authorized by the owner placing the order for the work with the contractor or such other officers as may be authorised and appointed in writing by the owner to act as the Engineer for the purpose of Contract.

Evaluation: An appraisal to determine whether or not a management system is capable of producing a quality control or service and generating evidence to support decisions of acceptability.

Equipment: An assembly of components which can perform independent function shall be called 'Equipment'.

Field welding schedule sheet: The form used to document field weld locations, numbers, welding procedure to be used, requirements, code and NDE requirements for a specific contract.

Inspection: The process of measuring, examining, testing, gauging or otherwise comparing one or more characteristics of the product or service with the specified requirements.

Inspection authority: Representative of the authorised agency is qualified to perform inspection and/or duties required by the code under the rules of any Government.

Item: Any level of unit assembly, including structure system, sub-assembly, component, part or material.

GLOSSARY

Major Non-conformances: Major Non-conformances are those which have a direct or indirect adverse effect on performance, reliability, safety, interchangeability, maintainability, working life or on site activities of the material, equipment or service.

Material: A substance or combination of substances forming components, parts, pieces and plant items.

MDCC: MDCC "Material Despatch Clearance Certificate" is issued by QA&I, authorisingdespatch of items, after satisfactory completion of all tests/checks as per contract.

Minor Non-conformances: All other Non-Conformances not covered in "Major Non-Conformances", shall be considered "Minor Non-conformances".

Measuring equipment: All devices used to measure, gauge, test, inspect or otherwise quantify the characteristics of an article.

N.D.E.: Non-Destructive Examination includes, but not limited to, Radiographic examination, Magnetic Particle examination, Ultrasonic examination, Liquid Penetrant examination and Visual examination.

Non-conforming Item: A deficiency in characteristics, documentations on procedure, which renders the quality of an item unacceptable or indeterminate.

Non-Conformity – Non fulfillment of a specified requirement: The definition covers the departure or absence of one or more quality characteristics (including dependability characteristics) or quality system elements from specified requirements.

Non-Conformity Dispositioning Request: Non-Conformity Dispositioning Requests are formal requests from Contractors to owner, to deviate from a specified quality requirement. Non-conformities are to be detected and reported as soon as possible.

Process: Procedure or techniques followed in the production or erection of a product.

Pre-commissioning: All activities pertaining to individual starting and trial run of individual equipment or up to first rolling of turbo-set, whichever is later.

Plant: A combination of equipment working together to perform one single function shall be called plant.

GLOSSARY

Quality: The totality of features and characteristics (attributes) of a product or service that bear on its ability to satisfy a given need.

Quality Audit: An activity to determine through sample investigation the adequacy of an adherence to established procedures, instructions, specifications, code and standards and other contractual requirements and the effectiveness of implementation.

Quality Assurance: All those planned & systematic action, necessary to provide adequate confidence that an item or a facility will perform satisfactorily in service.

Quality Control: Those quality assurance actions, which provide a means to control and measure the characteristics of an item, process or facility, to established requirements.

Quality Plan:A document setting out the specific quality practices and procedures relevant to a particular component, part or a material.

Quality Programme: Overall management and procedures for the quality of execution of a specific contract or project.

Quality Manual:A document specifying the general quality policies and practices of an organisation.

Quality Surveillance: The monitoring activity by the owner/ his representative or an independent organisation acting on his behalf, of a contractor's quality control organisation and methods.

Record:A document which furnishes objective evidence of activities performed or results achieved.

Reliability: The probability of a device, system or facility, performing satisfactorily for a specified time, under stated operating conditions.

Repair: Action taken on non-conforming product, so that it will fulfill the intended usage requirements, although it may not conform to the originally specified requirements.

Rework: Action taken on a nonconforming product so that it will fulfill the specified requirements.

Standard: An instrument, device or material of known characteristics and higher precision, used to establish and maintain the accuracy, of a measurement system or device.

GLOSSARY

Sub-Supplier/ Sub-Contractor: An agency who has been awarded a contract by the "Contractor" for supply of services/ equipment.

Sub-Vendor: The meaning shall be same as "Sub-Supplier/ Sub-Contractor".

Verification: An act of conforming, substantiating and assuring that an activity or condition has been implemented in conformance with the specified requirements.

Welding Procedure Qualification Record: A WPQR is a record of welding data (variables) recorded during the welding of a test coupon. It also contains the test results of the tested specimen. Recorded variables normally fall within a small range of the actual variables that will be used in the production welding.

Welding Procedure Specification:A form giving the details of welding procedures such as base material, filler materials, range of preheat and post weld heat treatment temperature, thickness etc.