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10/5/06

GOVERNMENT OF ANDHRA PRADESH  
PUBLIC HEALTH & MUNICIPAL ENGINEERING DEPARTMENT

DIRECTOR  
HYDERABAD  
1165  
23 MAY 2006

Grains: "CEPHENGER"  
Fax: 040-23393371 (ENCPH)

Phone: 23391208 ENG  
23316941 GEN

Letter No. 104/OC/TS/2005.

Dated: 20-05-2006.

GA  
21/5/06

From  
Sri B.CHANDRA SHEKER,  
M.Tech.,  
Engineer-in-Chief,  
Public Health, "Kashana",  
A.C. Guards,  
Hyderabad - 500 004.

To  
The Director of Works Accounts,  
1<sup>st</sup> Floor, M3-Block  
Manoranjan Complex,  
M.J. Road, Hyderabad.

Sir,

Sub:- PH Deptt -Quality Control Divisions - Quality Control Manual finalized --  
Furnishing a copy of Q.C. Manual -Reg.

- Ref:- 1) GO Ms No. 226 MA, MA & UD Dept, Dt. 17-06-2004
- 2) The Director of Works Accounts, Hyderabad Lr. No.DWA/Hyd/Sn-  
II/A-7/2005-06/57, dt.28-2-2006.

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With reference to the above, I am enclosing herewith a copy of Quality control Manual  
(PH) for implementation

Further it is to inform that the Quality control certification may be made applicable for  
the works done after 01-06-2006. In respect of the works carried out upto 31-05-2006, the  
present system of not insisting QC certification may be continued.

Yours faithfully,  
Sd/-  
ENGINEER-IN-CHIEF (PH)

//Attested//

*[Signature]*  
22/5/06

EXECUTIVE ENGINEER (PH)

Encl- no. DWA/Hyd/AY/PH/06-07/8)  
052-6-2006

Copy communicated to all SPWAs & PAAs/APAs  
for information and necessary action.

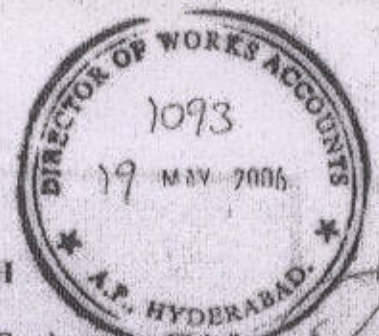
Public Health Section, 15, Anandapur, 500065-19, Hyderabad

copy to all SPWAs.

*[Signature]*  
DIRECTOR OF WORKS ACCOUNTS  
M.J. ROAD, HYDERABAD.

*[Signature]*  
21/5

10/5/06



GOVERNMENT OF ANDHRA PRADESH

Office of the Engineer-in-Chief,  
Public Health, "Kashava",  
AC Guards, Hyderabad - 1.

22/5/06

Memo No: 104/Q.C./T5/2005

Dated: 10-05-2006.

Sub: PH & ME Department - Quality Control Manual and guidelines - Communicated - Reg.

- Ref:- 1) G.O. Ms. No. 226 MA, MA & UD Department DT: 17.06.2004
- 2) This office Memo NO.104/Q.C.T5/2006, Dt.23-02-2006.
- 3) The Director of Works & Accounts, Hyderabad Lr.No.DWA/Hyd/Sn.II/A-7/2005-06/57, Dt.28-02-2006.



10/5/06

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With reference to the above, the quality Control manual of PH Department has been prepared and circulated to all Superintending Engineers and Executive Engineers for implementation.

Sd/-  
ENGINEER-IN-CHIEF (P.3)

To  
All Superintending Engineers (PH) and  
Executive Engineers (PH),  
And Executive Engineer (PH) Q.C. Divisions.

Copy furnished to the Director of Works & Accounts, Hyderabad along with Q.C. manual, for information and with a request to communicate to all PAOs/APAOs.

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//Attested//

EXECUTIVE ENGINEER (PH) 10/5/06

Enclt no. 104/Q.C./T5/2005  
31-05-06

copy communicated to all SAs, PAOs/APAOs for information and necessary action.

7-15 Ananthapur 10/06-05-18 N.abc

copy to all SAs.

JOINT DIRECTOR OF WORKS ACCOUNTS  
M.L. ROAD, HYDERABAD.

C. C. Vasu  
23/5



**Government of Andhra Pradesh**

**Public Health & Municipal Engineering  
Department**

**QUALITY CONTROL**

**MANUAL - 2006**

**PUBLIC HEALTH & MUNICIPAL ENGINEERING DEPARTMENT**

**QUALITY CONTROL MANUAL**

**1. INTRODUCTION:-**

The Public Health & Municipal Engineering Department is executing works viz., water supply and sewerage schemes apart from regular maintenance works. It is the bounden duty of every Engineer to see that the works are executed in accordance with relevant specifications conforming to APSS/BIS/IRC/MORTH.

The Government has clearly defined the duties of Engineers in different capacities vide G.O.Ms.No 94 I & CAD Dept dated 1-7-2003. Para 24(a) of this GO reads as

*"The contractor and the Engineers in charge of construction/maintenance are responsible for the quality of construction/maintenance. The departmental Executive Engineers will act as Quality Assurance Engineers. The Quality Control Officials are accountable for the quality of the work where certification issued by them. They should also act as Quality Audit Engineers."*

The Quality Assurance deals with the quality check of materials, process and the workmanship. It involves conducting various types of tests both on materials as well as finished item of the work at regular frequencies as prescribed in relevant codes. The Executive Engineer (PH) Division concerned are primarily responsible for quality assurance of the works in their jurisdiction apart from the contractor.

The Quality Control is basically a random check mechanism on materials/process/workmanship/finished item of work at the frequency defined with reference to the estimate contract value of the work. This check can be done either by Departmental quality Control or by any authorized 3<sup>rd</sup> party agency or both.

Quality Audit is a random check on the quality assurance measures taken up by the field engineers and recorded in the field registers. The quality control wing will make an inspection note on these aspects during their quality inspection and it is the duty of the field staff to comply with the Q.C reports

## 2. JURISDICTION: -

The Executive Engineers (PH) of the following quality control Divisions have the jurisdiction over the Public Health divisions of the following districts.

Sl. No	Name of the QC division	Jurisdiction of the QC division as per G.O.Ms.No 226-MA MA &UD Dept dated 17-06-2004 , and as per Proceedings of ENC (PH) No 106/B2/QC/2006 dated 6-5-2006 covering districts of
1	Hyderabad	Ranga Reddy, Nalgonda, Mahabubnagar, Medak, Nizamabad, Warangal, Khammam, Karimnagar and Adilabad.
2	Visakhapatnam	Srikakulam, Vizianagaram, Visakhapatnam, East Godavari, West Godavari and Krishna.
3	Kadapa	Kurnool, Chittoor, Kadapa, Ananthapur, Guntur, Prakasam and Nellore

The above three quality control divisions work under Superintending Engineer (PH) Special Circle Guntur, which is treated as Q.C Circle with head quarters at Guntur.

## 3. FREQUENCY OF Q.C INSPECTIONS: -

The Executive Engineer, quality control division shall inspect works personally and also cause inspection of works by the Deputy Executive Engineer, quality control under his control for all works costing more than Rs. 1.00 lakhs as many times as possible during execution, however at least at the following frequency depending upon monetary value (Agreement value) of the work as detailed below.

Sl. No	Estimated cost (Agreement value) of works Rs. in lakhs	Minimum No. of Inspections to be done	Inspecting Officers of Quality control	Remarks
1.	Up to 1.00 lakhs			No quality check by the Quality Control Division is required. Field Engineer has to satisfy with the quality of the work executed.
2.	Above Rs 1.00 lakh and up to Rs 5.00 lakhs	1	DEE / AEE	DEE / AEE to inspect every work
3.	Above Rs 5.00 lakhs and up to Rs 10.00 lakhs	2	DEE / AEE	DEE / AEE to inspect every work.
4.	Above Rs 10.00 lakhs and upto to Rs 20.00 lakhs	2	EE / DEE / AEE	EE / DEE / AEE to inspect every work.
5.	Above Rs 20.00 lakhs and upto Rs. 50.00 lakhs	3	EE / DEE / AEE	EE / DEE / AEE to inspect every work.
6.	Above Rs.50.00 lakhs	3 + 1 for every additional Rs.50.00 lks	EE / DEE / AEE	EE / DEE / AEE to inspect every work

#### 4. RESPONSIBILITIES OF FIELD OFFICERS: -

The field Engineers are the primary and chief quality assurance Engineers. They shall execute the works in strict conformity with the specifications as stipulated in standard Codes so as to achieve 100% quality. They shall not

compromise on the quality of work and must thoroughly satisfy with every aspect of the work from quality control point of view i.e usage of right material and adoption of right procedures of execution.

They shall conduct all the required tests on materials to ascertain its suitability or otherwise before such materials are allowed to be used in the work. They shall also carryout process control tests regularly as envisaged in the standard codes to make sure that the work is carried out as per standard specifications leaving no room for any laxity. The various kinds of tests and their frequency shall be as per relevant Codal provisions. The test reports should be submitted to the Executive Engineer (PH) along with the bills.

They should invariably maintain a systematic record of tests performed by them in the course of execution duly tabulating results of such tests. The same shall be furnished to the quality control staff during inspection. Failure on the part of the field officers either in conducting the required tests or maintaining the record will be a serious lapse and they will be held accountable for the same.

The onus of maintaining quality of the work is thus mainly lies with the field staff.

**5. INTIMATION TO QUALITY CONTROL DIVISION**

The Executive Engineer (PH) concerned should furnish copies of the sanctioned estimates, agreements, plans, structural designs and drawings to the concerned Executive Engineer (PH) Quality Control Division as soon as agreements are entered in to by them or higher officers. In addition to this, the field DEE/AEE/AE shall intimate the progress of works from time to time to the Executive Engineer, quality control division to facilitate quality control inspection of works at appropriate stages during their execution. This will avoid situations of inspecting works after their completion and making comments at a stage where no rectification is possible.

If no intimation is given and payment to the contractor has been made without quality control report, the concerned field staff will be individually and severally liable for bad quality of work, if any.

The field officers shall furnish a statement of certain details (Annexure- I) to the quality control staff pertaining to the works for quality control inspection. It shall be signed by the Executive Engineer/ Dy.Executive Engineer/ section officer concerned.

#### **6. RESPONSIBILITIES OF QUALITY CONTROL ENGINEERS: -**

The Executive Engineer, quality control should see that the quality control inspections should be programmed and spaced in such a way that all the important events of the work are covered.

The Executive Engineer (PH) quality control division should inspect works and send the Quality control Report to the Executive Engineer/DEE concerned for taking further action with a copy to the Superintending Engineer (PH) concerned. The Executive Engineer, Quality Control Division shall report directly to the Superintending Engineer (Quality control) / Chief Engineer (PH) in cases where adverse quality is noticed and warrants immediate action.

The Deputy Executive Engineer (PH) quality control sub-division should inspect all the works and submit his QC report immediately to the concerned Executive Engineer, quality control division.

The Assistant Executive Engineer/Assistant Engineer, Quality control shall assist the Executive Engineer/ Dy.Executive Engineer, quality control in all quality control inspections, conduct laboratory tests and help in preparing the reports and maintain a record of such reports.



All the QC reports shall be issued by the signature of the Deputy Executive Engineer/ Executive engineer Quality Control as the case may be as per financial limits. All QC certificates shall be issued by the signature of Executive engineer Quality Control and all bills shall be accompanied by QC certificate.

#### **7. SCOPE OF QUALITY CONTROL REPORT: -**

Though not compulsory, it is desirable to carry out the quality control inspection in the presence of the field staff and also the contractors or their technical agents. The quality checkpoints will be at random as per the discretion of the Executive Engineer/Deputy Executive Engineer quality control, as the case may be, and their decision in this regard is final and binding. The scope of quality control report is confined to the quality of work observed by the quality control staff at the chosen locations based on visual examination, physical measurements, results of field tests and laboratory tests of the samples at these locations.

Quality control report cannot be purported to be covering quality of whole work and as such can not be used for regulating payments to the contractor. The field staff are entirely responsible for the quality and payments shall be made only after they are fully satisfied with the work and the rectification / recovery for the bad quality of work pointed out by the quality control.

The field Executive Engineer concerned should act in accordance with relevant Codal provisions for accepting the quality of work and he should take necessary action for rectification as far as possible and should not allow defective work to remain, if any, However he can exercise the provisions of PS 27 & 29 of APSS in cases where in his opinion the work can remain by imposing suitable penalty apart from recovering the difference in value of the work from the contractor concerned.

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## **8. COMPLIANCE TO THE QUALITY CONTROL REPORT & ACTION TAKEN REPORT.**

The essential aim of the quality control wing is to assist the field officers and the contractor concerned for improving quality of work. Its efforts are directed only to set right the errors in execution by pointing out the same in quality control reports. Therefore if any deficiencies are pointed out in the quality control report, the field staff on their part shall take prompt action to rectify the same wherever possible.

If there is no scope for rectification of bad work, they shall assess the extent of influence of such deficiencies on the quantity of work and propose suitable recovery for defective work if deficiencies are well within the permissible limits or reject the work to that extent, if otherwise.

In either case, the field staff shall furnish the Action Taken Report to the Executive Engineer, quality control division for his perusal for issue of quality control certificate and also to respective superintending engineer (PH).

If the field staff are in disagreement with the observations made by the Executive Engineer quality control division, the same shall be reported to the Superintending Engineer concerned and Superintending Engineer Quality control for arriving at a final decision. The decision of the Superintending Engineer shall be binding on both the contractor and the field Executive Engineer as per PS 29 to APSS.

## **9. SETTING UP OF QC LABS:-**

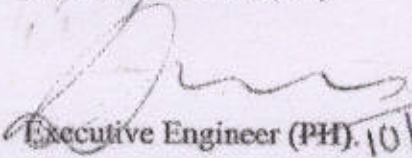
The Executive Engineers, quality control division should establish quality control laboratories in their respective jurisdictions along with necessary and latest equipment for conducting field quality tests. They should also acquire necessary mobile field-testing equipments for on the spot reporting.

**10. REVIEW OF QUALITY CONTROL: -**

The Executive Engineer, Quality Control Division (PH) should submit quarterly appraisal reports clearly indicating the number of works inspected and action taken reports received for review by Superintending Engineer Quality control.

Sd/-  
Engineer-In-Chief (PH).

// Attested //

  
Executive Engineer (PH). 10/5/06

**Annexure -I**  
**DETAILS TO BE SUBMITTED BY FIELD ENGINEERS DURING Q.C**  
**INSPECTION**

**1. Details of work:**

**1.1 Name of work**

**1.2 Reference to Admn. Sanction and amount**

**1.3 Reference to Technical Sanction and amount**

**2. Details about executive set up:**

**2.1 Name of the division and Executive Engineer**

**2.2 Name of the sub-division and Dy. Executive Engineer**

**2.3 Name of the section and Asst. Executive Engineer/Asst. Engineer**

**3. Details of contract:**

**3.1 Name of the contractor and short address**

**3.2 Contract value and tender percentage**

**3.3 Date of handing over site**

**3.4 Agreement period of completion**

**3.5 Agreement date for completion**

**4. Provisions of the estimate: -**

**4.1 Details of important provisions in the sanctioned estimate**

a)

b)

c)

z)

**5. Stage of work**



**Government of Andhra Pradesh**  
*Public Health & Municipal Engineering Department*

**QUALITY CONTROL DIVISION**

**QUALITY CONTROL CERTIFICATE.**

Q.C.C No. \_\_\_\_\_ Dated: \_\_\_\_\_

- 1) Name of the Work : \_\_\_\_\_  
\_\_\_\_\_
- 2) Name of the Agency : \_\_\_\_\_
- 4) Agreement No and amount : \_\_\_\_\_

Certified that the Quality control checks have been performed at random in respect of L.S / C.C No \_\_\_\_\_ and part / final bill of the above work amounting to Rs \_\_\_\_\_

Asst. Executive Engineer  
Quality control

Deputy Executive Engineer  
Q.C Sub div. \_\_\_\_\_

Executive Engineer  
Q.C Division \_\_\_\_\_