

**GOVERNMENT OF ANDHRA PRADESH  
PANCHAYATI RAJ & RURAL DEVELOPMENT (ESTT.I) DEPARTMENT**

**Memo No. 42243/Estt.I/99-2,**

**Dt.9-2-2000**

Sub: PR Engineering department - Recommendations of Advisor (QC), G. A. Department on road works - instructions issued-Reg.  
Ref: 1). From Advisor, G.A (QC), Department.C.No.232/ADV (QC)/99, dt.23-1-99  
2). From the ENC.PR,Hyd.Lr.no.T1/25561/99,dt.4.2.2000  
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The Advisor to Government G.A. (QC) during his inspection on road works relating to various Engineering Departments noticed that different Engineering Departments are following different standards. He therefore recommended certain guide lines to be followed by all Engineering Departments in order to achieve uniform standards and procedure.

The Government accepted the recommendations made by the Advisor to Government G.A (QC), Department in consultation with the Engineer in Chief, PR, Hyderabad. The procedure and standards to be followed in respect of PR Engineering department are annexed to this memo, in the form of instructions, which shall be followed scrupulously in PR Engineering department falling which, stern disciplinary action will be taken against those who violate and contravene the said instructions.

Engineer in Chief, PR, Hyderabad is directed to ensure that the instructions are taken to the notice of all Engineering personal in PR Engineering department and ensure proper and strict implementation of the said instructions, in order to maintain quality of works.

**C.ARJUNA RAO  
SPECIAL CHIEF SECRETARY TO  
GOVERNMENT.**

## **ANNEXURE TO MEMO NO. 42243/Estt.I)/99-2, Dt.9-2-2000**

### **1. Specifications**

“The Ministry of Surface Transport” specifications followed by TR&B Dept. shall be followed for all road works in PR Engineering department.

### **2. Quality control Mechanism to test the quality of metal inside compacted area.**

a). An area of ½ m x ½ m of full depth of the road shall be cut open so as to assess not only the thickness of each layer but also the quantity of metal available in each layer.

b). This would give a rough idea of whether the loose stacked granite metal has gone into the compacted layer so as to assess the density, as required in the MOST specification clause Nos.903.2.2 and 903.2.4

c). Payments are being released base on compacted thickness of each layer.

For example water bound macadam layer Grade III, consist of compacting 100% loose metal (quantity required for 100 mm thick) using 25% gravel as blindage compacting to 75 mm thickness. This thickness of 75mm may consists of totally gravelly material or combined with very little quantity of metal ( without specified quantity ). This has been noticed by the Advisor, Quality control during surprise checks, when he made arrangements to cut open the road , to verify whether the full quantity of metal has not into the compacted layer.

Therefore the PR Engineering department should not make payments based on thickness alone, disregarding the metal component which would determine the durability of structure.

### **3. Recoveries in respect of oversize metal**

a). The instructions issued by the Chief Engineer (R&B) and Administration in circular Memo no.711/QC/D2/84,dt. 2-3-1984 where in instructions were issued to reduce the tender rates of the Contractor in case the S.E decides to allow the over size metals and clause 27 of APDSS shall be followed scrupulously in PR Engineering department also and these instructions shall be applicable to graded metal as well.

### **4. Rejection:**

In respect of new works to be executed hereafter, the specified thickness and quality shall be followed strictly. A maximum of 10% variation will only be allowed in respect of less thickness and less quality of bituminous layers. In respect of less thickness and less quality in gravel base & WBM layers, a maximum tolerance of 20% shall be allowed at present in R&B Dept. In respect of recoveries up to 10% estimate cost is to be recovered and from 11% to 20%, one and half times of estimate value may be recovered. The instructions issued by the Chief Engineer, R&B and administration in circular memo no. 711/QC/D2/84,dt. 2-3-1984 shall be followed.

### **5. Inspection by ENC/CE/SEs:**

a) The authority who accords Technical Sanction to a work shall inspect the work, before according Technical Sanction and this fact shall be prominently noted in the check slip of

the sanctioned estimate.(as ordered in GO Ms.No 492,Public works(X) Dept., Dt: 14.05.1973).

b) The SEs shall inspect all the works costing more than Rs: 10.00 lakhs before according Technical sanction to the estimate. For special repair works such as Bridges etc. costing more than Rs: 100.00 lakhs, the CE concerned shall inspect before according Technical sanction. The officers concerned shall invariably enclose the inspection reports to the sanctioned estimates.

c) The ENC, PR, Hyd, CEs& SEs, should issue inspection notes on any work inspected by them. The inspection notes shall contain about the men, machinery and material available at the work spot including the progress of work, physical and financial out lays and backlog etc. The Quality Control tests shall be conducted and recorded in the inspection notes as well as in site registers.

d) The ENC and CEs shall inspect at least (10) works in a month and the SEs shall inspect (20) works every month.

#### **6. Metal Spreading Permission:**

The SEs shall accord permission for spreading metal for road works costing more than Rs.10.00 lakhs and while the EEs are empowered to accord permission in respect of the works costing less than Rs. 10.00 lakhs after taking pre-measurements of stacks. Full Quantity of material as per MOST standard and relevant codes shall be stacked by the side of roads and after check-measurement by SEs/EEs., Permission shall be accorded.

#### **7. Check-measurement of works:**

a) The SEs shall invariably check measure all the works costing Rs. 50.00 lakhs and above at 1/3,2/3 stage of work and before final measurement, and his check-measurement shall cover not less than (30%) of the total expenditure incurred each time

b) The EEs shall invariably check measure all the works costing Rs. 5.00 lakhs and above and his check-measurement shall cover all the major items not less than (30%) of the total expenditure incurred each time.

c) A certificate to the extent that check measurements have been carried out by the SEs/EEs shall invariably be recorded at the time of marking payment duly giving reference to the M.Book.

#### **8. Quality of Works:**

a) All the inspecting officers viz. ENC,CES,SEs,EEs,Dy.EEs,AEEs and AEs shall invariably sign in the connected registers being maintained at the work site.

b) All EEs in charge of Quality Control operations shall ensure establishment of laboratories with minimum equipment at work sites of all the major works.

c) The SEs and EEs of Quality Control shall be held personally responsible in ensuring correct quality of works as per GO Ms no 23, dt. 5.3.1999.

## **9. Strengthening of Quality Control Wings:**

a) The officers posted to the Quality Control work shall be on selection basis, based on reputation and integrity. They should possess sufficient work experience and knowledge of the quality aspects of works. They have to be provided with the latest testing equipment and inspection vehicles, at least one to each sub-Division. They must be initially trained and supplied with relevant Quality Control manuals.

b) The benchmarks at project sites and other important structures are to be installed properly and they shall be checked and certified by the Quality Control staff periodically.

c) All the works taken up under world bank assistance, NABARD, RDC etc. shall invariably be checked by Quality Control wing and after receipt of Quality Control report only, final bills shall be paid duly effecting necessary recovered towards deficiencies, observed if any.

d) Production of records during Quality Control inspections/ any other inspections.

1. Measurement books
2. D.L.Rs
3. C.S/L.S of earth work or any other items of work
4. L.F Books
5. Permission letter for using private roller
6. Permission letter of SE/EE for spreading the metal materials
7. 7F major accounts
8. RM accounts
9. Stores Accounts
10. T.E.O's register etc.

e) Furnishing of records to the Quality Control wing :

The SE/EE/DEE, PR shall furnish the following records to the Quality Control wing.

1. Monthly progress reports with correct physical stage
2. Copies of the Technically sanctioned estimates
3. Copies of the agreement etc.

## **10. Widening of Culverts:**

On most of the roads widening of carriage way is not simultaneously followed by Widening of Culverts and major bridges. This is leading to serious accidents on R&B roads in general and National High ways in particular. Widening of Culverts/Major bridges and providing traffic signals are mandatory when ever widening of carriageway is contemplated. Hydrology aspect at the culvert/Bridge site shall be studied in detail. Side drains and Berms shall be maintained properly. Encroachments shall be checked and got vacated. While forming new roads, provisions of conduits shall be made in town limits to facilitate lying of telephone lines, water supply lines and electrical lines and to avoid indiscriminate cutting of the road. In the town limits provision of speed breaker shall be made judiciously and scientifically and road signs shall be displayed prominently.

## **11. Splitting up of works**

Splitting up of works into slices and pieces shall be avoided. Bids shall be invited by preparing convenient packages to discourage petty contractors and to ensure quality of work by entrusting the works to the qualified contractors who are in possession of the required machinery. The rules and codes currently in force shall be followed scrupulously.

## **12. Long term planning**

A). It shall be properly planned for preparation of estimate, bid documents etc to be completed well in advance to take up the works during non monsoon period to ensure better quality.

b). WBM road works shall be carried out during the rainy season and not during summer, since a new WBM surface would be allowed to undergo settlement during rainy season. The execution of WBM roads shall be avoided during summer to the extent possible.

## **13. Maintenance of history books.**

a). history books shall be maintained for any road, building ,bridge, canal ,tank etc and the repairs improvements etc carried out shall be noted down to avoid duplication of works. The details of earlier repairs duly noting down the reaches and expenditure incurred shall be noted.

b). The CEs,SEs whenever they inspect any work shall record their remarks in this history books also.

## **14. Video.**

For all important works, before preparation of estimates and after completion of works and at important critical stages such as bottom of foundations,1/3,2/3 levels of works, video graph, shall be taken.

## **15. Roads works takenup under A.P Hazard Mitigation Project.**

a). It is observed that many estimates were sanctioned without keeping in view surface condition of the existing road, type of soil available etc. In respect of the works taken up under “AP Hazard Mitigation and emergency cyclone recovery project”. In several stretches gravel base was proposed in widening portion through road stretches were passing through hard gravel soils. This would not result in the extra financial commitment to the state exchequer but also weaken the embankment due to excavation of well compacted sub base and providing new sub base with similar soils.

b) Another common complaint received from both the contractors and field engineers was about picking the existing BT surface of central carriage way and providing one or two layers of WBM crust. Due to picking of existing well set black top surface, the WBM layers immediately below, get disturbed and weaken the existing well compacted carriage way.

c) As such the provisions in the road widening works taken up under Hazard Mitigation project shall be considered.

**16. Action on complaints:**

If any complaint or allegation is received in writing or seen through media, It shall invariably be enquired by the SE concerned.

**17. Disciplinary actions**

Disciplinary actions shall be initiated against the erring officers and the enquiry shall be completed with in six months and the erring officers shall be punished severely.

**18. Training :**

The AEEs /AEs /DEEs shall be imparted one week training through any reputed training institutes in respect of formation of Bitumen roads.

**19. Meetings:**

The senior Technical officers of the department shall keep the schedule of meetings on a fixed date every month. The SEs and EEs may attend the meetings in Hyderabad on 11th & 12th every month to discuss with the concerned CEs on 11th and the Secretary/ Minister on 12th. They shall collect the required particulars of previous month in the 1st week of the next month and shall attend the meetings with full particulars on 11th & 12th at Hyderabad.

**20. Surprise checks By the advisor (QC) :**

The advisor QC shall conduct surprise checks of works being executed and if any deficiencies, irregularities are noticed, serious disciplinary action may be initiated against the erring officers by the competent Authority.

**21. Drafting of Personnel to inspect the works by the Advisor (QC):**

The advisor QC is empowered to draft the services of any engineer to inspect the works of the respective departments or any other departments on specific requisition from the the advisor QC to facilitate free, fair and effective inspection of the fraudulent works

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