

GOVERNMENT OF PUDUCHERRY
PUBLIC WORKS DEPARTMENT
PUDUCHERRY

-o-0-o-

445
No. /PW/CE/QC/Gen. File/2017-18

12/11/
Puducherry, dated .2018.

MEMORANDUM

Sub: PW- CE- Quality Control – Maintenance of all test registers – MAS – H.R. –
Purchase vouchers - Instructions issued - Reg.


It is needles to emphasise that the Executive Engineer are requested to follow Quality control measures in all the works executed under their control. However it is observed that during the Quality control inspection by the Quality control wing of this office, there are some slackness in conducting the mandatory test, at required frequencies and / or maintenance of site records including level books and purchase vouchers for the materials used in the work.

Find herewith extract of the instructions given in CPWD Works Manual 2014 para 53.2.8 regarding the submission of copy of test registers, MAS, Hindrance Register in each alternative bill.

It is also to be mentioned that if all the test register, Purchase vouchers for the materials hindrance register and test check is not submitted along with alternate R/A bill & final bill it will be responsibility of the Executive Engineer and JAO that no payment is released to the contractor.

The contents of this memorandum may be brought to the officers at various levels for strict compliance.

Enclosure: As stated.


CHIEF ENGINEER
PUBLIC WORKS DEPARTMENT

445
EE
To
The Executive Engineer, / JAO,
BRN/ BRC/BRS/ NH/ PH/SBD-I/SBD-II/IRRN/B&R kkl/
I&PH KKL/ Mahe/Yanam, *EE(P)*, *EE(Design)* ✓
Public Works Department.

Copy Communicated to:-

The Superintending Engineer, B&R, Circle-I/II/III, P.W.D., Puducherry/ Karaikal.

SECTION 53

QUALITY ASSURANCE AND TECHNICAL AUDIT WING

53.1 Introduction

- (1) The Quality Assurance activity, in order to be truly effective has to ensure a progressively improved and uniform quality of the finished work. Experience gained over years indicate that "Process Control" is essential in building construction to ensure that the work in different phases is executed in a manner pre-determined and laid down in specifications. In order to achieve the above, the pre-requisites cover among other things, an inbuilt provision in the contract for a system of continuous check on quality by the field staff and the contractor for ensuring quality of work; availability of adequately manned and equipped agency for overseeing the quality aspects, and periodical appraisal of quality and a system of feed back for effecting possible improvements.
- (2) Maintenance of quality has to be imbibed in the minds of the contractor as well as the officials of the department. It is better to have a system in which the quality of work is achieved during the construction stage itself, rather than indulge in 'fire fighting' activities after the damage has been done by way of post-construction 'quality control'. Quality control does have a place in the system, but this has to be more by way of being a means of enforcement, to ensure that the quality of work is checked and controlled as a continuous process during the construction stage itself: The final output will then be satisfying both to structural as well as aesthetical sensibilities.

53.2 Minimum Quality Assurance Plan (Modified as per OM/MAN/233)

- (1) **Minimum Q.A. Plan shall have to be part of tendered document for all the works costing more than Rs. 1 Crore, and for works not exceeding Rs. 1 Crore, the Technical Sanctioning Authority may provide this clause in the NIT considering its necessity.** (Modified vide OM DG/ MAN/261 dt. 18.01.2014)
- (2) Lot size, number of required tests and frequency of testing needs to be clearly indicated in QA Plan. While deciding these criteria CPWD Specifications & Provisions of BIS Code and Standard Practices may be referred. Volume of work, Practical Difficulties and Site Conditions etc. may also be kept in view and lot size, number of tests and frequencies of testing may be varied suitably by NIT Approving Authority.
- (3) It should clearly indicate the Machinery and other Tool & Plants required to be deployed at site by the contractor. Entire Machinery and T&P may not be required at the start of work, therefore, a proper time schedule by which each Machinery & T&P is to be brought at site should also be indicated.
- (4) Requirement to setup field laboratory should be defined. All the testing equipments to be arranged by the contractor should be clearly mentioned. If field lab is to be setup by the Department the same may be indicated in the QA Plan.
- (5) All the relevant and applicable codes, specifications and standards, as well as the acceptance criteria for various items of work, workmanship, materials and process employed needs to be mentioned.
- (6) A proper shuttering schedule showing quantity of shuttering to be brought at site either in one lot or at different stages of work should form part of QA Plan.
- (7) Maintenance of Register of Tests -
 - (i) All the registers of tests carried out at Construction Site or in outside laboratories shall be maintained by the contractor which shall be issued to the contractor by Engineer-in-charge in the same manner as being issued to CPWD field staff.
 - (ii) All Samples of materials including Cement Concrete Cubes shall be taken jointly with Contractor by JE and out of this at least 50% samples shall be taken in presence of AE in charge. If there

is no JE, all Samples of materials including Cement Concrete Cubes shall be taken by AE jointly with Contractor. All the necessary assistance shall be provided by the contractor. Cost of sample materials is to be borne by the contractor and he shall be responsible for safe custody of samples to be tested at site.

- (iii) All the test in field lab setup at Construction Site shall be carried out by the Engineering Staff deployed by the contractor which shall be 100% witnessed by JE and 50% of tests shall be witnessed by AE-in-charge. At least 10% of the tests are to be witnessed by the Executive Engineer.

For outstations the percentage of tests to be witnessed by JE, AE & EE are to be decided by NIT Approving Authority and should form part of QA Plan.

(iv) All the entries in the registers will be made by the designated Engineering Staff of the contractor and same should be regularly reviewed by JE/AE/EE.

- (v) Contractor shall be responsible for safe custody of all the test registers.

- (8) Submission of copy of all test registers, Material at Site Register and hindrance register along with each alternate Running Account Bill and Final Bill shall be mandatory. These registers should be duly checked by AE(P) in Division Office and receipts of registers should also be acknowledged by Accounts Officer by signing the copies and register to confirm receipt in Division office.

If all the test registers and hindrance register is not submitted along with each alternate R/A Bill & Final Bill, it will be responsibility of EE & AAO that no payment is released to the contractor.

- (9) Maintenance of Material at Site (MAS) Register -

(i) All the MAS Registers including Cement and Steel Registers shall be maintained by Contractor which shall be issued to the contractor by Engineer-in-charge in the same manner as being issued to CPWD field staff.

(ii) Each of the entry of receipt of material at site shall be 100% test checked by JE or by AE if there is no JE.

(iii) Each MAS Register shall be checked by JE at least twice a week and at least once a week by AE. If There is no JE then MAS registers will be checked by AE at least twice a week.

(iv) Cement Register shall be reviewed by EE at least **once** in a month.

For outstations the frequency of checking the Registers by JE, AE & EE is to be decided by NIT Approving Authority and should form part of QA Plan.

- (10) It will be deemed that work so measured, checked and paid is of the required quality and standard, both in respect of ingredients as well as the intended functions it is supposed to perform. In other words, the work would not only meet the required specifications but also the workmanship as per sound engineering practices.

- (11) Minimum QA plan may vary work to work basis depending upon nature and volume of work.

- (12) The Superintending Engineer shall also have to check and sign these reports at suitable intervals in token of his ensuring compliance of the 'Quality Assurance Plan' for the work. For major works costing above Rs. 10 crores, he shall check and sign these reports for works in his headquarter, before every alternate running account bill, beginning from the first bill, as well as before the final bill is paid to the contractor. For works outside his headquarter, he shall check and sign these reports whenever he goes on inspection. The Chief Engineer can waive this requirement in exceptional cases, and for recorded reasons. However, in any case, the Superintending Engineer shall not be absolved of his responsibility to ensure that the 'Quality Assurance Plan' is complied with in every work under his charge. It will be his responsibility to locate the lapses or deficiency and take suitable remedial action if the Quality Assurance Plan is not implemented in spirit and action by the field officers.