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Dated, the 24th August, 1973.

To

All Chief Engineers of State Public Works Departments and Union Territories dealing with National Highways

Sub: Quality control on National Highway works and other Centrally financed works like Strategic Roads

During the last decade there has been a rapid increase in traffic and load intensities on National Highways, and the trend is towards a further increase in the subsequent Plan periods. Due to this, demand has grown for a more efficient performance of the National Highway facilities and a better level of service for the road users. A pre-requisite for this is that adequate quality control may be exercised during execution of the works. The present system of controls through sensory checks has already proved inadequate and been responsible for failures/faulty construction in several cases. This has to give way to an improved system based on objective and qualitative measurements carried out by staff exclusively set up for this purpose. Besides more economical utilisation of materials, this will result in a significant reduction in user costs. The subject of quality control has figured at the earlier Chief Engineers' meetings, for instance the meeting held at New Delhi in June, 1971, and even at subsequent meetings.

2. To meet the extra cost of quality control a separate percentage provision is being allowed in all National Highway estimates being sanctioned presently. This provision is meant to cover the cost of quality control staff, cost of equipment and testing, and the miscellaneous recurring expenses of the quality control teams. State Chief Engineers are requested to ensure that the requisite quality control staff, with needed equipment, is placed in position as soon as the execution of any National Highway project or Centrally financed work like Strategic Road begins. Exact set-up of the quality control organisations in the States will depend on the nature and size of the project and departmental set-up of the State PWD concerned. But, broadly, the quality control units should be independent of the execution staff and work under the technical direction of the Central Laboratory/Chief Engineers' headquarters office. A suggestion to this effect was contained in the model set-up for State PWDs discussed at the Chief Engineers' meeting at New Delhi in June, 1971. No doubt, results of the quality control tests would be regularly and promptly fed by these units to the site staff as the latter will have the prime responsibility for ensuring good quality of construction. So that full benefit is reaped from the presence of quality control units, the construction staff must be directed to take urgent note of the results communicated to them for any corrective action necessary. Where there is persistent trouble in achieving the desired quality, the matter should be brought to the notice of Regional Offices of the Ministry as to any modifications required in designs, specifications or the process of construction. To this effect, Ministry's Regional Offices are being asked to maintain a close liaison with the State PWDs.

3. The tests to be performed by the quality control units, and their frequency, should be in accordance with accepted norms in which respect the Ministry's Specification for Road and Bridge Works/IRC Handbook on Quality control, both of which have been published, should be referred to. It may be recalled that copies of the Draft Handbook on Quality Control had been circulated among State Chief Engineers by Member—Secretary of the IRC Quality Control Committee earlier in August, 1971. Now the final version of the Handbook having been published the same should be followed. It is highly important, and an essential requirement, that results of quality control tests should be properly recorded regarding the same as a very important record supposed to be well preserved, of course results of these tests being regularly fed to the construction supervisory staff as also to the senior officers in-charge of quality control teams in the Central Laboratory or Chief Engineer's headquarters office as mentioned in the foregoing paragraph. These senior officers in-charge of the quality control units should constantly see to the proper evaluation of the test results so that immediate notice is taken of results showing any deficiency in construction compared to the specifications/designs provided for so that prompt action is taken to tackle such situations. These records of test results should also be made available for reference to the inspecting officers from the Ministry's (Roads Wing) headquarters office as also from its Regional Offices when required. Ministry's officers are also requested to be afforded the necessary facilities during their visits to works of observing the actual carrying out of any quality control tests by the State PWD quality control teams.

4. Since the Ministry attaches great importance to the measures taken for improving quality of construction both on National Highway and Centrally financed works like Strategic Roads, it is requested that action being taken in this respect may be intimated to us.