

Terms Of Reference for Hiring the services of Academic/ research institutes in the independent third party review of the quality assurance system , quality of works and safety for the OSRP (A World Bank Funded Project)

1. Background and Objective

As part of the restructuring of Orissa State road Projects, World Bank intends to undertake independent Quality audit of 3 civil works contracts on SH-9, 53, 17 of Orissa under World Bank Projects by engaging NIT, Rourkela as consultants. The objective of these services is to examine conformity of the contractual specifications;

- (i) Identify non conformances and propose remedial as well as corrective actions to minimize future occurrences;
- (ii) Confirm effectiveness of the quality assurance system (QAS) adopted by the contractors as well as by the Project Supervision (interim Arrangement) headed by Resident Engineer (RE) in each of the three Packages under the interim arrangement for supervision Works.
- (iii) Recommend measures for rectifications and improvements in the QAS.

The details of 3 contracts are as under:

Contract		Value	Length	Contractor	Supervision Consultant	Probable date of Completion
Bhawanipatna-Kharia	Y1-PO1	₹ 105,51,39,120	68 K.M	M/S Patel-ARSS (JV)	Supervision Team headed by Resident Engineer, P01	26.6.2013
Chandabali-Bhadrak-Anandpur	Y-PO2	₹ 2,16,23,17,622	95 K.M	Somadutta-ARSS (JV)	Supervision Team headed by Resident Engineer, P02	28.05.2013
Brhampur-Taptapani	Y1-PO3	₹ 81,97,23,707	41K.M.	M/S Back Bone-ARSS(JV)	Supervision Team headed by Resident Engineer, P03	31.10.2012

2. Scope of Services

The scope of Services shall include, but not be limited, to the following:

- a. Consultants shall undertake two quality audits of 3 civil works contracts at approximately six months interval.
- b. Preparation of inception Report, Which shall include a detailed Audit Plan, Methodology, schedule of carrying out the audits, format of the audit report and the Check-list of audit parameters.
- c. Consultants shall review all required project documents, including source approvals, material submittal requests and approvals, Inspections and Test plans, approved method statements, approved shop drawings,

survey records, quality control files, Request for Inspection (RFI) files Non conformance reports, and various correspondence among contractual parties.

- d. For the completed works, consultants shall complete the desk review of the quality assurance testing regime adopted both by the Supervision team and the contractor. In addition, the consultants shall plan to audit the completed works by requesting the contractor through engineer under clause 11.3 GCC (Contractor to Search) to carry out required quality control tests.
- e. For the ongoing works, the consultants shall participate in at least 5% of the overall quality control test performed by the contractor/consultants.
- f. The audit shall include but not be restricted to review of adopted Construction procedures, workmanship of the works, sequencing of various construction operations, contractors' work plans, contractors' work practices, storing, consumption procedures, material testing, documentation system – to ensure sound and effective techniques are being employed.
- g. The consultant shall review the calibration certificates of relevant testing and surveying equipment used by the contractor and PSC in carrying quality assurance and control. Wherever feasible, the consultants shall conduct the calibrations checks on these equipments. The contractor shall provide facilities for checking of calibration.
- h. The consultants shall endeavor to identify all non conformances including those previously identified by the contractor and/or the supervision consultant.
- i. The consultant shall review quality assurance system adopted by the contractors and the PSCs for its effectiveness. The audit shall perform the again analysis on open non conformance reports as a part of this exercise.
- j. Preparation of two Independent Audit Reports. The first audit shall cover all civil works done till the date of audit while the second audit reports shall cover works carried out since the first audit. The second audit report must also include a review and status of remedial and corrective actions taken by the contractor/consultant on all non-conformances observed during the first audit.
- k. The Consultant shall review and prepare a Status report of the remedial and corrective actions taken by the Contractors/PSCs on all non-conformances observed during the first audit.
- l. Submission of the quality Audit Report to Government and World Bank. Consultants will also be required to participate in review meeting/ missions undertaken by the World Bank.

3. EMPLOYER'S OBLIGATION

- (i) Access to the project sites including offices of supervision team headed by Resident Engineer and contractors, laboratories, project documentation required to perform the audits.
- (ii) Contract Documents between EMPLOYER and the construction Contractor(s) for three different packages (i.e. P-01, P-02, P-03).
- (iii) Documents relating to interim supervision arrangement.
- (iv) Approved Quality Assurance documents, submitted by the Construction contractor/PSC.
- (v) Provide an Action taken Report by the Supervision team/Contractor within one month of the submission of the audit reports.
- (vi) A copy of all RFI being issued after the appointment through the engineer to enable participation in at least 5% of tests.
- (vii) Availability of contractors' / Supervision team staff nominated representatives and the Employer's representation during Audit at site.

4. TIME SCHEDULE AND DELIVERABLES:

The consultancy is initially envisaged for one year. It may be extended by mutual agreement between Chief Engineer, World Bank Projects and NII, Kourkeia depending upon the actual progress of the work for the stretches of roads under consideration. The consultants shall report to the CE, Project Management Unit of World Bank Projects. Following Deliverables are required to be submitted by consultants. The institute shall conduct 3 visits (2 audits + 1 compliance visit) for each package in one year totaling 9 visits in one year. Each audit includes site visits, testing and consultation in the institute and submission of reports.

Sl.No.	Report	No. of Copies of reports	By When
1	Inception Report	5	Within 15 days of signing the contract
2	First Audit Reports(package wise) – 3 no.s	5	3 month from signing of Contract Agreement
3	Second Audit Reports including report on compliance to first audit (package wise) – 3 No.s	5	9 month from signing of Contract Agreement
4	Status Report on Corrective Actions taken following the second audit	5	12 month from signing of Contract Agreement

The first audit shall be undertaken within one month of the signing of the contract. Second audit shall be undertaken 6 months after the first audit of respective package/contract. 3rd site visit is envisaged in the last quarter for observation and compliance to the second audit. The above time schedule is subject to prevailing normal conditions/situations and the consultant will not be responsible for any delay arising out of any unforeseen / unavoidable difficulties/ situations in carrying out the inspections/audits, reasons being not attributable to the consultants.

5. KEY PROFESSIONALS

CVs of following Key professionals needs to be submitted with the technical proposal

Sl.No.	Key Professional	Role	Qualifications
1	Prof. Mahabir Panda	Principal Consultant (Team Leader)	B.Sc. Engg. (Hons.)(Civil), M.Tech. and Ph.D. (Transportation Engg.) Exp: Teaching and research in Transportation subjects(roads and bridges)-26 years
2	Quality Control Engineer – 3 in no.	Co-Consultant	Faculty members with teaching and research experience in transportation subjects/ engineers (to be hired) with sufficient experience in quality control of roads and bridges