

Government of India  
Ministry of Road Transport & Highways  
(S&R (P&B/New Technology) Zone)  
Transport Bhawan, 1, Parliament Street, New Delhi-110001

Dated: 12<sup>th</sup> September, 2024

**CIRCULAR**

To

1. The Chief Secretaries of all the State Governments/ UTs.
2. The Principal Secretaries/ Secretaries of all States/ UTs Public Works Department/ Road Construction Department/ Highways Department (dealing with National Highways and other centrally sponsored schemes).
3. The Chairman, National Highways Authority of India, G-5 & 6, Sector-10, Dwarka, New Delhi-110 075.
4. The Managing Director, NHIDCL, World Trade Centre, New Delhi-110029.
5. The Director General (Border Roads), Seema Sadak Bhawan, Ring Road, New Delhi-110 010.
6. All Engineers-in-Chief and Chief Engineers of Public Works Department of States/ UTs/ Road Construction Department/ Highways Departments (dealing with National Highways and other centrally sponsored schemes).
7. The Secretary General, Indian Roads Congress
8. The Director, IAHE, Noida, UP
9. All CE-ROs, ROs and ELOs of the Ministry.

**Subject:** Standard EPC Contract Agreement for National Highways and Centrally Sponsored Road Works - **Amendment to test checks by the Authority's Engineer -reg.**

Madam/Sir,

Engineering Procurement and Construction mode of contract gives the entire responsibility of design and construction to the Contractor and therefore longer Defects Liability Period cum Maintenance Period (5/10 years) is provided in model contract document to safeguard the quality requirements of project. Considering such provisions of EPC Contract Agreement, Authority's Engineer is mandated to check a definite percentage of tests carried out by Contractor for quality control as specified for each quality characteristic in Ministry's Specifications for Road & Bridge Works/IRC standards & guidelines. The provision has been carefully examined considering current practices in Highway projects and greater emphasis on meeting strength & serviceability requirements in respect of component of a Highway Project over respective design period and the following modifications have been made to the model Engineering Procurement and Construction (EPC) Agreement and RFP for Consultancy Services for Authority's Engineer for Supervision of EPC projects.

*Dickur Kaut Jha*

1.1 Amendment to model EPC Agreement:-

Clause No.	Existing Provision	Modified Provision
11.10 Tests (i)	For determining that the Works conform to the Specifications and Standards, the Authority's Engineer shall require the Contractor to carry out or cause to be carried out tests, at such time and frequency and in such manner as specified in this Agreement, and in accordance with Good Industry Practice for quality assurance. The test checks by the Authority's Engineer shall comprise at least <b>50% (fifty percent)</b> of the quantity or number of tests prescribed for each category or type of test for quality control by the Contractor.	For determining that the works conform to the specifications and standards, the Authority's Engineer shall require the contractor to carry out or cause to be carried out tests at such time and frequency and in such manner as specified in the Agreement and in accordance with Good Industry Practice for quality management. The Authority's Engineer shall <b>witness all the quality control tests</b> carried out by the Contractor at its site laboratory/main laboratory/field/plants. These include tests for all materials, mixes, products, etc. Authority's Engineer shall also witness all tests of finished products like bearing in the manufacturers' laboratory as mandated in respective standards. Authority's Engineer will also conduct review of quality control documents in respect of factory manufactured materials/finished products, etc. as per IRC:SP:112.
Schedule-N Terms of Reference for Authority's Engineer, 4 Construction Period(ix)	For determining that the Works conform to Specifications and Standards, the Authority's Engineer shall require the Contractor to carry out, or cause to be carried out, tests at such time and frequency and in such manner as specified in the Agreement and in accordance with Good Industry Practice for quality assurance. For purposes of this Paragraph 4 (ix), the tests specified in the IRC Special Publication-11(Handbook of Quality Control for Construction of Roads and Runways) and the Specifications for Road and Bridge Works issued by MORTH (the "Quality Control Manuals") or any modification/substitution thereof shall be deemed to be tests conforming to Good Industry Practice for quality assurance.	For determining that the Works conform to Specifications and Standards, the Authority's Engineer shall require the Contractor to carry out, or cause to be carried out, tests at such time and frequency and in such manner as specified in the Agreement and in accordance with Good Industry Practice for quality management. For purpose of this paragraph 4 (ix), the tests specified in the MoRTH Specifications for Road and Bridge Works and respective Indian Roads Congress Standards/Guidelines/Manuals, together with any other Indian/International Standards

*Bidder Kant Jha*



Clause No.	Existing Provision	Modified Provision
		mentioned therein including any modifications/substitutions thereof shall be deemed to be tests confirming to Good Industry Practice for quality management.
Schedule-N Terms of Reference for Authority's Engineer, 4 Construction Period(x)	The Authority's Engineer shall test check at least <b>50 (fifty) percent</b> of the quantity or number of tests prescribed for each category or type of test for quality control by the Contractor.	The Authority's Engineer shall <b>witness all the quality control tests</b> carried out by the Contractor at its site laboratory/main laboratory/field/plants. These include tests for all materials, mixes, products, etc. Authority's Engineer shall also witness all tests of finished products like bearing in the manufacturers' laboratory as mandated in respective standards. Authority's Engineer will also conduct review of quality control documents in respect of factory manufactured materials/finished products, etc. as per IRC:SP:112.
Schedule-N Terms of Reference for Authority's Engineer, 4 Construction Period(xi)	The timing of tests referred to in Paragraph 4 (ix), and the criteria for acceptance/ rejection of their results shall be determined by the Authority's Engineer in accordance with the Quality Control Manuals. The tests shall be undertaken on a random sample basis and shall be in addition to, and independent of, the tests that may be carried out by the Contractor for its own quality assurance in accordance with Good Industry Practice.	The timing of tests referred to in Paragraph 4 (ix), and the criteria for acceptance/ rejection of their results shall be determined by the Authority's Engineer in accordance with the MoRTH specifications for Road & Bridge works and respective Indian Roads Congress Standards/Guidelines/Manuals together with any other Indian/International Standards referred thereto. The tests shall be undertaken on a random sample basis and shall be in addition to, and independent of, the tests that may be carried out by the Contractor for its own quality assurance in accordance with Good Industry Practice.

1.2 Amendment to model RFP for Consultancy Services for Authority's Engineer for Supervision of EPC projects:-

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Clause No.	Existing Provision	Modified Provision
Section 6 Terms of Reference for Authority's Engineer,5 Construction Period 5.3	Quality Assurance Manual and Plan forms the basis of quality of the work. It is therefore essential that the Quality Assurance Manual and Plan prepared by the Concessionaire be checked and approved. Thus, the Authority's Engineer shall check contents of Quality Assurance Plan and Manual of Concessionaire as per requirements of Quality Management System (as per ISO 9001), IRC: SP: 47-1998 and IRC:SP: 57-2000 for road bridges and roads respectively. The Authority's Engineer shall also offer their comments for modifying/ improving the document. After receiving the corrected document, the Authority's Engineer shall review and formally approve the QAM and Quality Plan and send one copy to the Authority. The Authority's Engineer shall complete the review of the methodology proposed to be adopted by the Contractor for executing the Works, and convey its comments to the Contractor within a period of 10 (ten) days from the date of receipt of the proposed methodology from the Contractor.	Quality Assurance Plan forms the basis of quality of the works. It is, therefore, ensured that the Quality Assurance Plan prepared by the Contractor be checked and approved by Authority's Engineer with 21 days' time period of its submission by Contractor. The Authority's Engineer shall ensure that the contents of the Quality Assurance Plan is as per requirements of IRC: SP: 112 and ISO: 9001. A copy of the approved Quality Assurance Plan will be sent by Authority's Engineer to the Contractor and the Authority. The Authority's Engineer will after review and approve the methodology within 10 days of its receipt from the Contractor and send a copy to Contractor and the Authority. Authority's Engineer will ensure that the methodology of the different components of the works are prepared keeping in view the specifications & standards and machinery deployed by the contractor. The Authority's Engineer may also offer their comments for modifying/ improving either of the document. After receiving the corrected document, the Authority's Engineer shall review and formally approve the same.
Section 6 Terms of Reference for Authority's Engineer,5 Construction Period 5.11	The Authority's Engineer shall test check at least <b>60(sixty) percent</b> of the quantity or number of tests prescribed for each category or type of test for quality control by the Contractor.	The Authority's Engineer shall <b>witness all the quality control tests</b> carried out by the Contractor at its site laboratory/main laboratory/field/plants. These include tests for all materials, mixes, products, etc. Authority's Engineer shall also witness all tests of proprietary products like bearing in the manufacturers'



Clause No.	Existing Provision	Modified Provision
		laboratory as mandated in respective standards. Authority's Engineer will also conduct review of quality control documents in respect of factory manufactured materials/proprietary products, etc. as per IRC: SP: 112.
Section 6 Terms of Reference for Authority's Engineer, 5 Construction Period 5.12	The timing of tests referred to in Paragraph 5.10, and the criteria for acceptance/rejection of their results shall be determined by the Authority's Engineer in accordance with the Quality Control Manuals. The tests shall be undertaken on a random sample basis and shall be in addition to, and independent of, the tests that may be carried out by the Contractor for its own quality assurance in accordance with Good Industry Practice.	The timing of tests referred to in Paragraph 5.10, and the criteria for acceptance/rejection of their results shall be determined by the Authority's Engineer in accordance with the MoRTH specifications for Road & Bridge works and respective Indian Roads Congress Standards/Guidelines/Manuals together with any other Indian/International Standards referred thereto. The tests shall be undertaken on a random sample basis and shall be in addition to, and independent of, the tests that may be carried out by the Contractor for its own quality assurance in accordance with Good Industry Practice.
Notwithstanding 100% test checks by the AE, nothing shall relieve the Contractor of its obligations and liabilities under this Agreement in any manner nor shall the Authority's Engineer or the Authority be liable for the same in any manner; and if errors, omissions, ambiguities, inconsistencies, inadequacies or other Defects are found in the Quality, they and the construction works shall be corrected at the Contractor's cost.		
Enclosure A to TOR - Man-months input for key professional staff for Normal Highway projects (for projects with length 0 to 60 km) is modified as under*		
Enclosure A to TOR - Man-months input for key professional staff for Normal Highway projects (for projects with length more than 60 km) is modified as under**		
Man-month input for key professional staff for Standalone Bridge project and Standalone Tunnel project may be modified on case to case basis as per actual requirement.		
Enclosure B to TOR: Following may be added at the end Lab technician: Graduate in Civil Engineering or Diploma in Civil Engineering with 1 year experience or B.Sc with 3 year experience.		
Financial Proposal shall be modified to take into account additional number of lab technicians and document/data entry operators. Besides following provisions may be added in Financial Proposal		
Particulars	Normal Highway projects (for projects with length 0 to 60 km)	Normal Highway projects (for projects with length more than 60 km)
Computer	2 nos	3 nos

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Clause No.	Existing Provision	Modified Provision
Car	1 no with 4000 km / month run	1 no with 4000 km / month run
Pick up van	2 nos with 4000 km / month run	3 nos with 4000 km / month run

\*Enclosure-A

## MAN MONTHS INPUT FOR KEY PROFESSIONAL STAFF

### AUTHORITY ENGINEER

Normal Highway Project  
(For projects with length 0-60 km)

S. No.	Personnel	Man-month in Construction Period of 18 months	Man-month in Defect Liability Period of 60 months
<b>A: Key Personnel</b>			
	Team Leader Cum Senior Highway Engineer	18	15
	Resident cum Highway Engineer	18	60
	Bridge/Structural Engineer	18	10
	Senior Pavement Specialist	18	0
	Senior Quality cum Material Expert	18	0
	Road Safety Expert	6	10
	<b>Sub Total</b>	<b>96</b>	<b>95</b>
	<b>Total for Construction and Maintenance</b>	<b>191</b>	
<b>B: Sub Professional Staff</b>			
	Survey Engineer	18	10
	Assistant Highway Engineer (2 nos)	2 x 18	1 X 60
	CAD Expert	4	4
	Environmental Engineer	4	0
	Assistant Bridge Engineer ( <i>number may be increased to 2 if no. of bridges and structures are more and total man-month are accordingly corrected</i> )	18	0
	Assistant Quality cum Material Engineer (2 nos)	2 x 18	0
	Electrical Engineer	4	3
	HTMS/Toll Expert	2	0
	Quantity Surveyor	18	8
	Horticulture cum Landscaping Expert	6	18
	Lab Technician (2 Nos)	2x18	0
	Document / Data Entry operator	18	0

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S. No.	Personnel	Man-month in Construction Period of 18 months	Man-month in Defect Liability Period of 60 months
A: Key Personnel			
	Sub Total	182	103
	Total for Construction and Maintenance	285	
	Grand Total	476	

**Note:**

1. The other inputs like support staff shall be provided by the Consultant of an acceptable type commensurate with the roles and responsibilities of each position.
2. In case of project having different construction period, Man Month Input shall be adjusted proportionately.
3. The Financial Expert or Legal expert or Contract Specialist may be required for the project for specific needs. Their deployment shall be arranged by the Consultant on specific requisition from the Authority and the payment shall be made as per the actual deployment. The Financial Expert or Legal expert or Contract Specialist shall be paid at the rates quoted for Senior Pavement Specialist.

**\*\*Enclosure-A**

**MAN - MONTHS INPUT FOR KEY  
PROFESSIONAL STAFF  
AUTHORITY ENGINEER**

**Normal Highway Project**

**(For projects with length more than 60 km)**

S. No.	Personnel	Man-month in Construction period of 24 months	Man-month in Defect Liability Period of 60 months
A: Key Personnel			
	Team Leader Cum Senior Highway Engineer	24	15
	Resident cum Highway Engineer (2 nos)	2x24	1x60
	Bridge/Structural Engineer	24	15
	Senior Pavement Specialist	24	0
	Senior Quality cum Material Expert	24	0
	Road Safety Expert	8	15
	Sub Total	152	105

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S. No.	Personnel	Man-month in Construction period of 24 months	Man-month in Defect Liability Period of 60 months
<b>A: Key Personnel</b>			
	<b>Total for Construction and Maintenance</b>	<b>257</b>	
<b>B: Sub Professional Staff</b>			
	Survey Engineer (2 nos)	2x24	1x10
	Assistant Highway Engineer (3 nos)	3x24	1x60
	CAD Expert	8	4
	Environmental Engineer	6	0
	Assistant Bridge Engineer (2 nos) - <i>(number may be increased to 3 if no. of bridges and structures are more and total man-month are accordingly corrected)</i>	2 x 24	0
	Assistant Quality cum Material Engineer (3 nos)	3 x 24	0
	Electrical Engineer	4	3
	HTMS/Toll Expert	3	0
	Quantity Surveyor	24	8
	Horticulture cum Landscaping Expert	8	28
	Lab Technician (4 Nos)	4x24	0
	Document / Data Entry operator	24	0
	<b>Sub Total</b>	<b>413</b>	<b>113</b>
	<b>Total for Construction and Maintenance</b>	<b>526</b>	
	<b>Grand Total</b>	<b>783</b>	

**Note:**

1. The other inputs like support staff shall be provided by the Consultant of an acceptable type commensurate with the roles and responsibilities of each position.
2. In case of project having different construction period, Man Month Input shall be adjusted proportionately.
3. The Financial Expert or Legal expert or Contract Specialist may be required for the project for specific needs. Their deployment shall be arranged by the Consultant on specific requisition from the Authority and the payment shall be made as per the actual deployment. The Financial Expert or Legal expert or Contract Specialist shall be paid at the rates quoted for Senior Pavement Specialist.

2.0 It should be applicable in case of all projects for which bids are yet to be received both for civil works on EPC mode and AE services. The contents of the Circular may be brought into the notice of all concerned for needful compliance.

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3.0 This issues with the approval of Competent Authority.

Yours sincerely,

*Bidur Kant Jha*  
12/09/2024

(Bidur Kant Jha)

Director (New Technology for Highway Development)

For Director General (Road Development) & Special Secretary

Copy to:

1. All CEs in the Ministry of Road Transport & Highways
2. All ROs of the Ministry of Road Transport & Highways
3. The Secretary General, Indian Roads Congress
4. Technical circular file of S&R (P&B) Section
5. NIC-for uploading on Ministry's website under "What's new"

Copy for kind information to:

1. PS to Hon'ble Minister (RT&H)
2. PS to Hon'ble MOS (RT&H)
3. Sr. PPS to Secretary (RT&H)
4. Sr. PPS to DG (RD) & SS
5. Sr. PPS/ PPS to Addl. Secretary (Road Safety)/ Addl. Secretary (RT&H & LA)
6. Sr. PPS/ PPS to AS&FA
7. Sr. PPS/ PPS to all ADG (BKS) / ADG (KB)/ ADG(SC)/ ADG(RS)/ ADG(OPS)
8. Sr. PPS/ PPS to JS (RT&MVL)/ JS (EIC) / JS (Logistics)/ JS (NHIDCL)