

Terms of Reference for Selection of Bridge expert in PMGSY

works of Kerala State

Background

PMGSY has a well-structured framework for delivery of rural roads based on sound principles including a core network/DRRP for project selection; standardized procedures for preparation of engineering designs and contract execution; e-procurement; independent quality monitoring; 5-year inbuilt maintenance in the civil works contracts; a web-based On-line Management, Monitoring, and Accounting system (OMMAS); and a comprehensive Operational Manual defining all the processes and procedures.

The National Rural Infrastructure Development Agency (NRIDA) was set up by the Ministry of Rural Development under the programme to extend support to the programme through technical support and guidance, project appraisal and Quality Control, Management of Monitoring Systems and submission of Periodic Reports to the Ministry.

An all-weather road is one that is negotiable in all seasons of the year by adequate cross drainage structures such as culverts, minor bridges, and causeways. Further, in case of a bridge exceeding 15m length, a separate DPR is to be prepared.

Under PMGSY-III State has got sanction for 11 Long Span Bridges. During implementation of these bridge projects, States are expected to adhere to the stipulated PMGSY guidelines and instructions issued from Ministry/NRIDA from time to time and follow sound engineering principles in general.

The availability of adequate number of bridge experts have been emphasized in various interactions and States were advised to select bridge experts to ensure that bridges are constructed with utmost technical precision in conformity with available technical literature, training imparted by NRIDA and complies with all codal provisions. Ensuring compliances, not only economizes construction, but also increases bridges' life span with high serviceability and safety.

States should take onboard bridge experts with sufficient technical background in design and construction of bridges. Besides taking the services of retired senior officers and consultants from the market, interns from Engineering colleges and Polytechnic can also be enlisted for day to day quality control and site execution. These interns will supplement the supervision team, ensuring that bridges are constructed after due technical checks, testing at sites as well as testing

at laboratories to meet the specifications.

Key Responsibilities

The Bridge expert will be responsible for providing technical support on all matters relating to construction of Long Span Bridges to the Chief Engineer KSRRDA. His/her key responsibilities shall be to support the Chief Engineer KSRRDA and his team in the implementation of the PMGSY Program with particular reference to bridges. His/her key responsibilities would involve the following:

- i. To Scrutinize the Detailed Project Reports of Long-Span Bridges (LSBs)**
- ii. To prepare Technical circulars, instructions related to LSBs**
- iii. To Monitor Construction of Long-Span Bridges as per approved Design & Drawings through random site visits.**
- iv. To Identify New Standards & Innovative Designs in the construction of bridges for the Implementation in PMGSY Roads**
- v. To provide assistance/suggestions to enhance the skill levels of the engineers involved in PMGSY works concerning planning, design and construction of LSBs.**
- vi. To arrange/co-ordinate training for officers in the states/SQMs in the inspection of LSBs.**
- vii. To review and evolve the bridge inspection formats of SQMs and NQMs.**
- viii. To review the comments/observations of NQMs on the inspection of LSBs and suggest suitable actions.**
- ix. To identify issues related to planning, design, and construction of bridges due to Climate Change.**
- x. To review and standardize the specifications adopted by the States.**
- xi. To suggest suitable provisions on OMMAS for monitoring progress/quality/maintenance of bridges.**

Detailed Description of Duties

- The bridge expert shall scrutinize the Detailed Project Reports of the Long Span Bridges received from the States/SRRDAs. This will include verification of structural designs, structural detailing and drawings, linear waterway calculations with reference to Hydraulic data, review of the geotechnical details including soil investigation reports, Estimates and Bill of quantities, Rate Analysis and other associated details and documents related to the bridge DPRs.
- The scrutiny of bridge DPRs is required to be done thoroughly and professionally

w.r.t. latest IRC codes, MoRTH, and NRIDA guidelines.

- The bridge expert shall bring out a detailed and clear review of the shortcomings in the bridge DPRs and suggest suitable modifications to the states.
- The bridge expert shall re-verify the DPRs submitted by the States for approval to the Chief Engineer KSRRDA.
- The bridge expert shall prepare a detailed comparative note on the review of DPRs, before and after corrections, highlighting key issues, defects and the cost implication due to the same. This shall be submitted separately for each DPR.
- The bridge expert shall also undertake field visits, as and when required, to the bridge sites proposed for construction as part of the scrutiny process to verify the need for the proposed bridge, adequacy of the provisions, design etc with reference to site conditions. The detailed reports shall be prepared.
- The bridge expert shall also evolve and standardize model template for inspection.
- The bridge expert shall Prepare and/or assist the Chief Engineer KSRRDA in the preparation of technical circulars, instructions, and guidelines with reference to bridges for the use of Implementing agencies in the state as per the latest specifications, requirements as per modifications in IRC codes and manuals.
- The bridge expert shall monitor the construction and implementation of bridges under PMGSY and shall also undertake field visits to inspect the construction of Bridges with reference to details indicated in approved design and drawings and also to guide the field engineers on the construction of bridges.
- The bridge expert shall assist the Chief Engineer KSRRDA in the development of new Standard Designs and Drawings based on the latest IRC codes, guidelines and innovative construction materials and techniques like pre-cast culverts etc. This may also result in saving valuable time and money in preparation of repetitive design and drawings.
- The bridge expert shall organize/co-ordinate the conduct of training programmers on the Design and construction of bridges for the engineers involved in PMGSY. Training should cover Bridge Planning, design & detailing, QA & QC, Construction Management, and Bridge Inspection after construction, Identification of any distress during their service life, repair & rehabilitation techniques and maintenance, etc.
- The bridge expert shall with the support of such organizations develop customized training modules and materials for the engineers involved in PMGSY. In his role as bridge consultant(s) in NRIDA, the consultant(s) shall make concerted efforts to disseminate technical information related to LSBs, to the states and also to the field engineers.

- The bridge expert shall, as and when required by NRIDA, review the observations of NQMs and give feedback to SQC and also suggest changes/improvements to the bridge inspection format of NQMs and SQMs as and when required.
- The bridge expert shall support the Chief Engineer KSRRDA in identifying various issues related to climate change that have an impact on the Planning, Design and Implementation of LSBs, particularly in the Hill states. Due to climate change frequency and severity of natural hazards viz. floods, soil erosion, cloud bursts, earthquakes, cyclones, etc are becoming a challenge to the Engineers, Researchers and Policymakers.
- Bridge expert shall also review the specifications and standards adopted by the states in the planning and design of bridges and suggest/direct the states suitably to have uniform standards and specifications across the country.
- To monitor the progress of the bridge-works with particular reference to the time frame for completion, Technical Specifications and Quality Control methods as and when required by NRIDA.
- To send periodic reports to the Chief Engineer KSRRDA on the progress of implementation of bridge works by the States.
- Support the Chief Engineer KSRRDA in preparation of briefs, periodical reports, and drafting of TORs for engagement of various sub-consultant(s) and statistical data on the status of programme/project activities related to the construction of bridges.
- Assist the Chief Engineer KSRRDA in assembling and editing basic data required for planning of programme/project activities, considering different approaches and alternative methods for project design, management, problem identification, and problem resolution related to the construction of bridges.
- Assist in follow-up on compliance documents, clarifying information, and answering questions about clearance and processing requirements.
- Assist in preparation/review of Standard Bidding Documents related to Bridge as and when required.
- Assist in the organization of conferences, seminars, workshops, training sessions and meetings
- Provide capacity building inputs, implementation support, and technical advice regarding the design, construction, rehabilitation and maintenance of bridges.
- Assist in monitoring progress of project activities by reviewing, verifying, and analysing work-plans, progress reports, final reports and other data for clarity,

consistency and completeness.

- Undertake visits to project sites and/or accompanying Chief Engineer KSRRDA and other officials
- Perform other duties as may be assigned by the Chief Engineer KSRRDA

Minimum Qualifications Education

Degree in Civil Engineering.

Experience

At least 5 years of demonstrated experience related to planning, design and construction of Long-Span Bridges.

Languages

Fluency in English

Age Limit

The upper age limit shall be up to the age of 65 years subject to satisfactory performance and good conduct.

Selection Process

Based on the application received on or before 30.10.2024, all qualified candidates found clear at the Scrutiny Stage for this particular category of post, due intimation in advance will be given only to the selected candidates for attending an interview.

Competencies

- Demonstrated ability to manage and evaluate bridge projects
- Ability to prepare technical publications, reports, and recommendations
- Ability to work in teams, cultural awareness and networking skills
- ability to succinctly explain technical issues to various stakeholders
- Having knowledge/expertise in computer-aided design software for the structural design of LSBs.
- Shall continually improve their proficiency and the effectiveness and quality of their services.

Remuneration

SI No	Items	Approved honorarium (Rs.)
1	Inspection of bridge sites at during construction or after completion of work, including checking of designs. For inspection of bridges sites, checking designs and drawings,	36,000/month

Terms & Conditions

1. The selection of Bridge expert will be initially for a period of 1 year subject to periodic review.

- The bridge expert will not be eligible for any additional amount during the selected period.
- If the selected bridge expert wants to be relieve from his duties, He/She has to issue a notice, one month before such de-empement.
- The bridge expert are not allowed to share any kind of official Information/Details with any individual/department/organization either private or government without the Permission/Instruction of the competent authority. The Bridge expert will maintain complete confidentiality while discharging his/her services to KSRRDA.
- During the term of service to KSRRDA, the Bridge expert shall not engage himself/herself directly or indirectly in providing consultancy services to any organization/ state/individual/consultancy firms for the preparation of DPRs for LSBs under PMGSY which may lead to a conflict of interest.
- The Order/Amendments issued by Central Government (GoI) from time to time regarding the engagement of Bridge expert will be Applicable/Binding on this empanelment.
- Upon selection, the provisionally selected Bridge expert are required to sign a code of conduct prescribed to work as National Quality Monitor.
- In the event of an official dispute, the decision of competent authority Chief Engineer KSRRDA will be final.

How to Apply

Application mentioning the Name, Date of Birth, Qualification, Experience, Contact address, Mobile no, email details shall be sent through registered post/speed post to the following address:

The Chief Engineer, KSRRDA. 3rd floor,
Revenue Complex, Public office compound,
Vikas Bhavan P O, Thiruvananthapuram-695033,
Kerala State.

Land Line Phone-0471-2312025, Mobile-9447245795

The closing/ last date for receipt of application is **30.10.2024**


Chief Engineer
KSRRDA