

National Highways & Infrastructure Development Corporation Limited

Consultancy services for Authority's Engineer for Supervision of Construction, Operation and Maintenance of 2-Lane bi-directional Zojila Tunnel with Parallel Escape (Egress) Tunnel excluding approaches on Srinagar-Leh Section connecting NH-1 at km 95.00 and at km 118.00 in the State of Jammu & Kashmir on EPC Basis.

Amendment No.-1

Sl. No.	Clause	Existing Provision	Modified Provision (To be read as)
1.	Section 1, ITC Clause 18	Address of Employer: General Manager (Technical) Ph. 011-23461674, Mob no. 8527254229 e-mail: prad_gmt@nhidcl.com/ sanjeev.malik@gov.in National Highway & Infrastructure Development Corporation Ltd. PTI Building, 3rd Floor,4-Parliament Street, New Delhi-110001	Address of Employer: Pradeep Sharma General Manager (Technical) Ph. 011-23461674, Mob no. 8527254229 e-mail: prad_gmt@nhidcl.com/ sanjeev.malik@gov.in National Highway & Infrastructure Development Corporation Ltd. PTI Building, 3rd Floor,4-Parliament Street, New Delhi-110001
2.	Clause 3.4, iv (d), of RFP	The Key Personnel has to provide, one page write-up on each project he/she has worked, giving (1) details of the project, (2) Specific duties and (3) Name, contact number & email id of two personnel working on the project. This one page write-up is to be uploaded as an additional supporting document.	The Key Personnel has to provide, one page write-up on each project he/she has worked in, giving (1) details of the project, (2) Specific duties and (3) Name, contact number & email id of two personnel working on the project (Mandatory for the projects in the last 15 years). This one page write-up is to be uploaded as an additional supporting document. If the one page write-up is not submitted, the experience of that project shall not be considered.
3.	Section 6 Enclosure B	-	As per Annexure-A
4.	Section — 2 LOI, Clause 4.1 (B), of RFP	Hard copy in Original (identical to proposals to be submitted in Sealed Envelop and also Electronic form to be uploaded on the E-tendering portal of Employer/NIC) (I) Technical Proposal in Hard Bound Form including (a) Power of Attorney for signing the Application (b) If applicable, the Power of Attorney for Lead Member of JV; (c) Copy of Memorandum of Understanding between JV partners, if	Hard copy in Original (identical to proposals to be submitted in Sealed Envelop and also Electronic form to be uploaded on the E-tendering portal of Employer/NIC) (a) Power of Attorney for signing the Application (b) If applicable, the Power of Attorney for Lead Member of JV; (c) Copy of Memorandum of Understanding between JV partners, if applicable;



		applicable; (d) Copy of Memorandum of Understanding with Associate, if applicable (e) Technical proposal submission form as per format prescribed in Appendix-B1 of Section 4 of RFP.	(d) Copy of Memorandum of Understanding with Associate, if applicable (e) Technical proposal submission form as per format prescribed in Appendix-B1 of Section 4 of RFP.																								
5.	Clause 6.2 (a) (i), SCC	Consultants shall be paid billing rates for services rendered by the personnel of all categories namely (i) Key Personnel; (ii) sub-Professional personnel and (iii) Support staff on man-moth wise. Beginning 13th months from the last date of submission of bid, billing rates shall be increased for the remuneration part only @ 5% every 12 months. 	Consultants shall be paid billing rates for services rendered by the personnel of all categories namely (i) Key Personnel; (ii) sub-Professional personnel and (iii) Support staff on man-month wise. Beginning 13th months from the last date of submission of bid, billing rates shall be increased for the remuneration of all categories mentioned above as well as on the remaining items of the financial proposal @ 5% every 12 months. 																								
6.	Clause no. 2.2.7, Appendix 0, Page no. 131 of RFP	<table border="1"> <thead> <tr> <th>Sl. No.</th> <th>Description</th> <th>Max. Points</th> </tr> </thead> <tbody> <tr> <td>I</td> <td>General Qualification</td> <td>25</td> </tr> <tr> <td></td> <td>i) Graduate in Electrical/Mechanical Engineering</td> <td>20</td> </tr> <tr> <td></td> <td>ii) Post-Graduate in Ventilation or equivalent</td> <td>5</td> </tr> </tbody> </table>	Sl. No.	Description	Max. Points	I	General Qualification	25		i) Graduate in Electrical/Mechanical Engineering	20		ii) Post-Graduate in Ventilation or equivalent	5	<table border="1"> <thead> <tr> <th>Sl. No.</th> <th>Description</th> <th>Max. Points</th> </tr> </thead> <tbody> <tr> <td>I</td> <td>General Qualification</td> <td>25</td> </tr> <tr> <td></td> <td>i) Graduate in Electrical/Mechanical Engineering</td> <td>20</td> </tr> <tr> <td></td> <td>ii) Post-Graduate in Ventilation/ Heating Ventilation & Air conditioning or equivalent</td> <td>5</td> </tr> </tbody> </table>	Sl. No.	Description	Max. Points	I	General Qualification	25		i) Graduate in Electrical/Mechanical Engineering	20		ii) Post-Graduate in Ventilation/ Heating Ventilation & Air conditioning or equivalent	5
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		(ii)	Add 0.5 (zero point two five) marks extra for each additional project subject to maximum 1 mark.			(ii)	Add 0.5 (zero point five) marks extra for each additional project subject to maximum 1 mark.		
9.	Appendix O; Clause 2.1 Note (i)	Note: (i) Weightage to be given when experience by a Firm as Sole Firm/Lead Partner in a JV/ Other Partner in a JV/As Associate				Note: (i) Weightage to be given when experience by a Firm as Sole Firm/Lead Partner in a JV/ Other Partner in a JV/As Associate			
		SI No.	Status of the firm in carrying out DPR/ Feasibility Study	Weightage for experience		SI No.	Status of the firm in carrying out DPR/ Feasibility Study	Weightage for experience	
		1	Sole firm	100 %		1	Sole firm	100 %	
		2	Lead partner in a JV	60%*		2	Lead partner in a JV	60%	
		3	Other partner in a JV	40 %*		3	Other partner in a JV	40 %	
		4	As Associate	25%		4	As Associate	25%	
10.	Appendix C3, Clause 8	No.	Description	No. of Reports	No. of Copies per Report	Total Nos. Of copies	Rate per Copy	Amount	
		8.01	Monthly reports	(Nos of months in construction period i.e. 84 months + 48)	6				
		8.02	Quarterly Reports	33	6	198			
		8.03	Various others reports as provided in the EPC Agreement such as Completion Report	5	6	30			
						Total			
11.	Clause No.13 of ToR	PERFORMANCE SECURITY The successful consulting firm shall have to submit a Bank Guarantee (BG) for an amount of 2.50% of the Contract Value within 15 days of issue of LOA. The BG shall be in the format specified in Appendix –I of draft contract form and furnished from a Nationalised Bank, IDBI or ICICI/ICICI Bank/Foreign Bank/EXIM Bank / Any Scheduled Commercial Bank approved by RBI having a net worth of not less than				PERFORMANCE SECURITY The successful consulting firm shall have to submit a Bank Guarantee (BG) for an amount of 2.50% of the Contract Value within 15 days of issue of LOA. The BG shall be in the format specified in Appendix –H of draft contract form and furnished from a Nationalised Bank, IDBI or ICICI/ICICI Bank/Foreign Bank/EXIM Bank / Any Scheduled Commercial Bank approved by RBI having a net worth of not less than 500 crore as			

		500 crore as per latest Annual Report of the Bank.....	per latest Annual Report of the Bank.....												
12.	Clause 6 of Notice Inviting Tender (NIT)	<p>The critical date sheet for bidding process is to be followed for this assignment is given here in under:</p> <table border="1"> <tr> <td>Bid submission End Date (online & physical Copy)</td> <td>:</td> <td>15.10.2018 (1000 hrs)</td> </tr> <tr> <td>Opening Date of Technical Bid</td> <td>:</td> <td>16.10.2018 (1100 hrs)</td> </tr> </table>	Bid submission End Date (online & physical Copy)	:	15.10.2018 (1000 hrs)	Opening Date of Technical Bid	:	16.10.2018 (1100 hrs)	<p>The critical date sheet for bidding process is to be followed for this assignment is given here in under:</p> <table border="1"> <tr> <td>Bid submission End Date (online & physical Copy)</td> <td>:</td> <td>22.10.2018 (1000 hrs)</td> </tr> <tr> <td>Opening Date of Technical Bid</td> <td>:</td> <td>23.10.2018 (1100 hrs)</td> </tr> </table>	Bid submission End Date (online & physical Copy)	:	22.10.2018 (1000 hrs)	Opening Date of Technical Bid	:	23.10.2018 (1100 hrs)
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QUALIFICATION OF KEY PERSONNEL

TEAM LEADER CUM SENIOR TUNNEL ENGINEER

Duties: The Team Leader will reside at project site throughout the period of construction supervision services. He will be overall in-charge of the project supervision of the construction package. He shall act as representative of the consulting firm appointed by the Authority. His duties will involve overall superintendence over the Resident Engineers and other experts of the construction package. He will guide, monitor, supervise and control all the activities related to supervision for the construction package. He will interact with the Executive Director/ General Manager and the other officials of the Authority.

He should have the following qualification / experience

(1) Essential Qualifications.

- (a) Graduate in Civil/Mining Engineering or equivalent from a recognized university.
- (b) Total professional experience 25 years
- (c) Professional Experience of 15 years in handling major tunnelling projects
- (d) He should have at least 10 years of International Experience in construction/construction supervision of major tunnel projects.
- (e) At least 5 years' experience as Team Leader/Resident Engineer/Project Manager or similar capacity in transportation tunnel projects of length equal to or more than **4.29 km**
- (f) He should have handled as Team Leader/Resident Engineer/Project Manager or similar capacity of at least two projects in Construction Supervision of transportation tunnels equal to more than **4.29 Km** length
- (g) Not more than 70 years of age.

(2) Preferential Qualifications.

- (a) Post Graduate in Civil/Mining Engineering with specialization in Structures/Tunneling/Geotech/Transportation/Project Management or equivalent.
- (b) Supervision experience of transportation Tunnel projects constructed through NATM methodology

Note: (1) Similar Capacity includes the following positions

- i) On behalf of Consultant: Team Leader / Resident Engineer
- ii) On behalf of Contractor : Project Manager
- iii) In Government Organizations :Superintending Engineer (or equivalent) and above



(2) Only those projects will be considered for evaluation at SI no 1(d), 1(e) and 1(f) where the input of the personnel is at least of one year.

RESIDENT ENGINEER CUM EXCAVATION SPECIALIST

Duties: He shall oversee construction supervision of the project stretch and shall coordinate with all other experts of the project and shall report to the Team Leader. He shall be directly responsible for regulating the construction process. He shall be assisted by Tunnel Engineers, Tunnel Lining Experts and Tunnel ventilation Expert and other support engineers/personnel. He shall deal directly with the tunnel engineers/experts and other support staff attached with the Team Leader to ensure that the construction process is well controlled as per established specification controls to avoid later quality control stage problems. Expert shall be responsible for checking and verifying the excavation plan and methodology submitted by the Contractor. He shall monitor the tunnel excavation activities including blasting. He shall also monitor the tunnel lining activities including installation of water proofing layers. He will be required to be fielded throughout the Currency of the project. The candidate is expected to be thoroughly familiar with various standard/specifications, contract procedures, Primavera or other project management software, design and quality control etc. In addition he will be responsible for tunnel works during Operation & Maintenance period of the project.

He should have the following qualification / experience.

(1) Essential Qualifications.

- (a) Graduate in Civil/Mining Engineering or equivalent from a recognized University.
- (b) Total Professional Experience of 15 years in supervision of major Tunnel construction Projects
- (c) He should have atleast 10 years experience in similar capacity for major transportation tunnel construction projects
- (d) He should have at least 7 years of International Experience in construction/construction supervision of major tunnel projects.
- (e) Should have handled construction/construction supervision of atleast 2 transportation Tunnel projects of length equal or more than **4.29 km**
- (f) Should have experience of NATM technology in construction of transportation tunnel
- (f) Not more than 70years of age.

(2) Preferential Qualifications.

- (a) Post Graduate in Civil/Mining Engineering with specialization in Structures/Tunneling/Geotech/Transportation/Project Management or equivalent.

TUNNEL DESIGN ENGINEER

Duties: The Tunnel Design Engineer shall be responsible for checking the designs of tunnel/design review and other incidental works to be constructed in the Project using sophisticated computer software. He shall be responsible for Detailed Design Calculation and drawing for tunnels. He shall be responsible for comprehensive assessment of structural condition of all the tunnel assets. His expertise shall include computer aided design methods for Tunnel Engineering with particular reference to Tunnel design.



He should have the following qualification / experience.

(1) Essential Qualifications.

- (a) Graduate in Civil Engineering or equivalent from a recognized University.
- (b) Professional Experience of 20 years out of which 12 years should be in transportation tunnel design / review as design expert
- (c) International Experience of 10 years in design of major transportation tunnel projects
- (d) Experience in similar capacity in construction/construction supervision of 2 transportation tunnel projects of length atleast equal to 4.29 Km each
- (e) Experience in similar capacity in design of 3 transportation tunnel projects of length atleast equal to 4.29 Km each
- (f) Experience in design of transportation tunnel using NATM technology
- (g) Not more than 70 years of age.

2) Preferential Qualifications.

- (a) Post Graduate in Engineering in structural engineering or equivalent
- (b) Innovative transport tunnel design like immersed tunnel and sub-sea bored tunnel

SENIOR GEO-TECHNICAL EXPERT

Duties: He will be responsible for supervising all the tests to be done in different stages of construction, besides ensuring that specified tests are done as per codal stipulations and as per the specifications laid down in the contract for all the different stages of construction. The Senior Geotechnical Engineer shall be responsible for checking and verifying the Specifications for Geotechnical investigations and the geotechnical details submitted by the Contractor. He shall assist the Team Leader & Tunnel Design Engineer in design of tunnel. He shall monitor the tunnel excavation activities including blasting.

He should have the following qualification / experience.

(1) Essential Qualifications.

- (a) Graduate in Civil Engineering or equivalent from a recognized University.
- (b) Professional Experience of 20 years
- (c) International Experience of 10 years in Construction / Construction Supervision of transportation tunnel projects
- (d) Experience as Geotechnical Engineer in Construction/Construction Supervision of at least 4 transportation Tunnel projects of length equal to or more than 4.29 Km
- (e) Specific experience in construction of tunnel projects involving vertical shaft sinking of at least 200 meter of vertical depth
- (f) Experience in similar capacity in project preparation of at least 2 transportation tunnel projects each of minimum 4.29 Km in length
- (g) Not more than 70 years of age.



2) Preferential Qualifications.

- (a) Post Graduate in Rock Mechanics/ Foundation Engineering/ Tunnel Engineering or equivalent

TUNNEL SAFETY EXPERT

Duties: The Tunnel Safety Expert shall be responsible for checking and verifying the Safety Plan prepared by the Contractor. He will also ensure effective implementation of the Safety Plan, undertake safety audits during Construction, Operation and Maintenance of the Tunnel.

(1) Essential Qualifications.

- (a) Post Graduate in Engineering from recognized university.
(b) Total Professional Experience of 20 years
(c) International Experience of 7 years in transportation tunnel safety management
(d) At least 10 years' experience in transportation tunnel safety works
(e) Experience in similar capacity of tunnel safety audits during construction stage of at least 2 transportation tunnel projects each of which should be minimum **4.29 km** in length
(f) Not more than 70 years of age.

(2) Preferential Qualifications.

- (a) Any professional Certification from a recognized/statutory body in safety/health/shot firer/ Explosives.

SENIOR GEOLOGIST

The Senior Geologist shall be responsible for checking and verifying the geological details submitted by the Contractor. He shall assist Team Leader & Tunnel Design Engineer in design of Tunnel. He shall monitor the tunnel excavation activities including blasting. The candidate should have exposure of working in Himalayan region and good understanding of rock and soil mechanics. He should have experience of tunnel works with appropriate design software.

The candidate should be a Post Graduate in Geology preferably with exposure in Himalayan region. He should have a minimum 20 years of professional experience of geological works, out of which 5 years should be in similar capacity for tunnelling design/ construction projects in the Himalayan region.

(1) Essential Qualifications.

- (a) Masters in Geology/Applied Geology/Engineering Geology from recognized university.
(b) Total Professional Experience of 20 years



- (c) At least 7years experience in similar capacity in construction/construction supervision of transportation tunnel projects
- (d) Experience of 5 years of construction/construction supervision of major transportation tunnel projects in the Himalayan region using NATM technology
- (e) He should have handled at least 2 highway tunnel projects of construction/construction supervision in similar capacity of 4.29 Km length each
- (f) Not more than 70 years of age

(2) Preferential Qualifications.

- (a) He should have handled at least 2 major transportation tunnel projects in similar capacity in project preparation/DPR.

CONTRACT SPECIALIST

Duties: He will be deployed for obtaining his expert opinion on emerging contractual issues. His key responsibilities will be to guide and assist Team Leader/Employer in all aspects of contract management in proper implementation of contract provisions including controlling the project cost of the construction package. He will also be required to offer his advice on contractual complications arising during the implementation on the request of the employer. He will be required to prepare manuals/schedules for the consultants team/employer based on the provisions of the contract document. He will be responsible for giving appropriate suggestions in handling claims of the contractors and any dispute arising thereof.

(1) Essential Qualifications.

- (a) Graduate in Civil Engineering or equivalent from a recognized University.
- (b) Professional Experience of 20 years in Contract Management.
- (c) Experience of at least 10 years as Contract Specialist on Highway or major road projects.
- (d) Experience in similar capacity of Contract Management of 4 large Highway or major road contracts of over Rs.500 crore (updated with 5% per year) including experience of handling Variation orders, claims of the contractor.
- (e) Experience of handling Arbitration cases/Dispute Resolution/Adjudication in similar capacity for major roads or Highway projects.
- (e) Not more than 70 years of age.

(2) Preferential Qualifications.

- (a) Masters/Post graduate in Law/Contract Management/Dispute Resolution or equivalent.

TUNNEL VENTILATION CUM E&M EXPERT

Duties: The Tunnel Ventilation Cum E&M Expert shall be responsible for checking and verifying the adequacy of design of Ventilation system during construction and O&M Period. He shall be responsible for checking and verifying the Specifications for Ventilation equipments. He will also monitor the installation, testing and operation and maintenance of the Ventilation equipments and system as a whole



(1) Essential Qualifications.

- (a) Graduate in Electrical/Mechanical Engineer or equivalent from a recognized university.
- (b) Total Professional Experience of 15 years
- (c) At least 7 years experience in similar capacity in construction/construction supervision of transportation tunnel projects
- (d) He should have handled in similar capacity in construction/ construction supervision of at least 3 transportation tunnel projects each of minimum 4.29 Km in length
- (e) He should have handled in similar capacity in design/DPR at least 3 transportation tunnelling projects each of minimum 4.29 Km in length
- (f) Not more than 70 years of age.

(2) Preferential Qualifications.

- (a) Post graduate in Ventilation/ Heating Ventilation & Air conditioning or equivalent**

INSTRUMENTATION AND CONTROL (SCADA) EXPERT

Duties: He will be reporting to the Team Leader and give input as and when required during the work. He should have comprehensive knowledge of application of current technologies, standards and best practices relating to SCADA system in infrastructure projects. He should have experience in CCTV, AID dynamic, LAN and WAN. The Instrumentation and Control (SCADA) Expert shall be responsible for checking and verifying the adequacy of design, installation and maintenance of SCADA related applications and databases of the tunnel during construction as well as during operation and maintenance. He shall ensure the application of modern standard technologies and best practices relating to Tunnel SCADA system.

He should have the following qualification / experience.

(1) Essential Qualifications.

- (a) Graduate in IT/ Comp Sc./ Electrical/ Electronics/ Instrumentation from a recognized university.
- (b) Total Professional Experience of 15 years
- (c) He should have minimum of 10 years experience in system requirement, installation and commissioning of all the subsystems and equipment required for remote operation and control devices similar to SCADA in any infrastructure project
- (c) He should have handled at least 2 surveillance and security systems projects
- (d) Atleast 7years experience in hardware configuration, system tuning, application development, documentation including operation and maintenance
- (e) Not more than 65years of age.

(2) Preferential Qualifications.

- (a) Post Graduate Degree in Instrumentation & Control/ Industrial Automation System Design/ Process control & Instrumentation Engineering/SCADA or equivalent**

