

**GOVERNMENT OF INDIA
MINISTRY OF ROAD TRANSPORT AND HIGHWAYS**

**LOK SABHA
STARRED QUESTION NO. 52
ANSWERED ON 28th NOVEMBER, 2024**

QUALITY OF ROADS UNDER EPC MODE

***52. SHRI ARVIND GANPAT SAWANT:
SMT. BHARTI PARDHI:**

Will the Minister of ROAD TRANSPORT AND HIGHWAYS

सड़क परिवहन और राजमार्ग मंत्री

be pleased to state:

- (a) whether the Union Government is aware that the quality of roads constructed under the Engineering, Procurement and Construction (EPC) mode is poor;**
- (b) if so, the reasons therefor along with the reaction of the Union Government thereon;**
- (c) the defect liability period fixed under EPC mode and the period in which roads have become defective and the loss suffered by the Union Government as a result thereof;**
- (d) whether the Union Government has fixed any responsibility on contractors in this regard; and**
- (e) if so, the action taken against the contractors along with penalty imposed on them and if not, the reasons therefor?**

ANSWER

THE MINISTER OF ROAD TRANSPORT AND HIGHWAYS

(SHRI NITIN JAIRAM GADKARI)

(a) to (e) A statement is laid on the Table of the House.

STATEMENT REFERRED TO IN REPLY TO PARTS (a) to (e) OF LOK SABHA STARRED QUESTION NO. 52 ANSWERED ON 28.11.2024 ASKED BY SHRI ARVIND GANPAT SAWANT AND SMT. BHARTI PARDHI REGARDING QUALITY OF ROADS UNDER EPC MODE

(a) and (b) All efforts are made to ensure that the National Highways (NHs) are constructed as per quality standards specified in the Ministry of Road Transport and Highways / Indian Roads Congress (IRC) specifications and codes. To ensure the construction quality of Engineering, Procurement and Construction (EPC) Projects, Consultants (Authority's Engineer) are appointed by the Ministry and its executing agencies for day to day supervision of the works at site. Officials of executing agencies of the Ministry such as National Highways Authority of India, National Highways & Infrastructure Development Corporation Limited, Border Roads Organisation, Public Works Departments/ Road Construction Departments/ Corporations of State Governments/ Union Territories, the project implementation units of the Ministry and the Officers of the Ministry also undertake inspections from time to time and ensure adherence of conformity of quality of the work done by the Concessionaire with stipulated requirements. Deficiencies, if any, observed during such examination / supervision are brought to the notice of the Concessionaires / Contractors for taking up necessary corrective measures.

(c) to (e) As per the provisions of the Standard EPC Agreement for NH works for execution on EPC Mode, the Defect liability period (DLP) is 5 years from the date of Completion of road constructed with Flexible pavement and 10 years from the date of Completion of road constructed with Rigid pavement or flexible pavements using

perpetual design. In case of all stand-alone structures such as Bridges/ Tunnels and in stretches where new technology has been used, DLP is 10 (years from the date of Completion. Further, for stretches requiring renewal of Bituminous Concrete (BC) layer using hot-in-place recycling of the entire BC layer or providing a fresh BC layer of thickness 40 mm and in stretches requiring improvement of riding quality through laying a layer of BM/DBM and BC, DLP is 3 years from the date of Completion.

Officials of executing agencies of the Ministry and Authority's Engineer (AE) undertake inspections on regular basis during implementation periods and DLP; defects (if any) are brought to the notice of the Contractors for rectifications of defects identified within a period of 15 days from the date of issue of notice or within any reasonable period as decided by the executing agency or AE. Actions against defaulting agencies are taken as per the provisions of the Contract agreement in case of any defaults.

Project-wise details of major deficiencies notified by AE or the executing agencies in NHs projects undertaken in EPC mode during implementation periods/ DLP and action taken including responsibility fixed and penalties imposed (wherever applicable) during the last three financial years and current year is annexed.

ANNEXURE**ANNEXURE REFERRED TO IN REPLY TO PARTS (c) to (e) OF LOK SABHA STARRED QUESTION NO. 52 ANSWERED ON 28.11.2024 ASKED BY SHRI ARVIND GANPAT SAWANT AND SMT. BHARTI PARDHI REGARDING QUALITY OF ROADS UNDER EPC MODE**

Project-wise details of major deficiencies notified by AE or the executing agencies in NHs projects undertaken in EPC mode during implementation periods/ DLP and action taken including responsibility fixed and penalties imposed (wherever applicable) during the last three financial years and current year:

State	S. No.	Name of the Project	NH No.	Length (in Km.)	Cost (in Cr.)	Details of damages / defects	Action Taken
Andhra Pradesh	1	4 laning of Vijayawada–Machilipatnam section of NH-9 from Km. 0.000 to Km. 63.800 (approx. length 64.611 km) in the State of Andhra Pradesh on EPC mode under NHDP Phase III	65	64.611	740.70	(i) Surface undulations in flexible pavement on East Side Benz Circle Flyover (ii) HTMS	(i) DLP Period has been extended till the rectification of defects. (ii) EPC Contractor has completed rectification of surface undulations as per the rectification methodology suggested by CRRRI, New Delhi. (iii) Contractor has started restoration works of HTMS.
	2	Rehabilitaiton and upgradation of Dindi-Digamarru Section from Km 127/500 to Km 136/520 of NH-214 (NH 216) & Digamarru-Losari Section from Km 0/000 to Km 32/900 of NH 214 (NH 216) to two lane with paved shoulders in the State of Andhra Pradesh under Engineering Procurement and construction (EPC) basis.	216	42.12	316.06	Cement Concrete Cores (PQC) from Chainage Km 25/010, 25/082, 25/045 Bituminous Cores (DBM+BC) from Chainage 130/175-130/165 Bituminous Cores (DBM+BC) from Chainage 8/335, 8/345, 8/350	The defects identified were rectified by the contractor at their own expense. In addition, a penalty of Rs.1.04 crore was imposed and deducted from the stage payments due to the poor quality of work.
Bihar	3	Rail cum Road Bridge across river Ganga at Munger Ghat	333B	14.517	227.77	Potholes and water stagnation	The contractor has taken up actions for rectification of defects.

State	S. No.	Name of the Project	NH No.	Length (in Km.)	Cost (in Cr.)	Details of damages / defects	Action Taken
Chattishgarh	4	4-Laning of Simga-Sargaon Section of NH-200 (New NH-130) from Km 48+580 to Km 91+026	New 130	42.446	829.13	Crack in 148 nos. of Cement Concrete Panels	Action taken up for Panel Rectifications at the risk & cost of EPC Contractor.
	5	4-Laning of Sargaon-Bilaspur Section of NH-200 (New NH-130) from Km 91+026 to Km 126+525 under EPC Mode	New 130	35.499	676.44	Crack in Cement Concrete Panels & RE Wall bulged at Km. 91, 96, 101, 102 & 106.	The EPC Contractor has commenced the rectification work at site.
	6	4/6 Laning of Raipur-Simga Section of NH-200 (New NH-30) from Km 0+000 to Km 48+580 section of Raipur-Bilaspur (Package-1) in the state of Chhattisgarh under NHDP IV on EPC Mode	30	48.58	1166	Cracks observed in PQC panels	Action taken up for replacement of PQC panels by EPC Contractor at his own cost.
Haryana	7	Flyover and Underpass at Hero Honda Chowk	48	1.4	138.07	spalling of concrete chunk from deck slab	Due to insolvency of the Contractor, NHAI terminated the Contract and assigned the work of maintenance to another agency at risk and cost of the original contractor. In May, 2024, certain portion of deck slab had spalled. An expert committee was formed to look into the reasons for the aforesaid spalling of concrete. NHAI has initiated actions for appointing specialized agency for structural safety audit.
	8	Delhi-Vadodara Expressway Pkg. 2	NE-4	28.5	1094	Rutting	NHAI has imposed damages amounting to Rs. 40.55 Lakhs on the contractor for delayed maintenance. Process of rectification of rutting has been initiated and majority of the rutting has been rectified. Also IIT Kharagpur has been engaged for detailed study and suggestions for permanent rectification of

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							defects.
	9	Delhi-Vadodara Expressway Pkg. 3	NE-4	31.8	780.88	Rutting	NHAI has imposed damages amounting to Rs. 35.90 Lakhs on the contractor for delayed maintenance. Process of rectification of rutting has been initiated and majority of the rutting has been rectified. Also IIT Kharagpur has been engaged for detailed study and suggestions for permanent rectification of defects.
Gujarat	10	Construction of six lane flyover/VUP including RE wall, service road and Drain, near Umbhel village on Bharuch-Surat Section of NH-48 (Old NH-80 at Ch of Km 258.858 identified as black spot ID no. GJ-02-54 in the State of Gujarat	48	0.9	26.76	Poor quality of works	Penalty has been invoked for non-fulfilment of contract obligations
Jharkhand	11	4 Laning of kutchery chowk to bijupara Secion of NH 75 from km 0.0 to km 34.00	75	34	235	PQC panel, Riding quality, toll plaza building.	Performance Bank Guarantee of Rs 11.79 Crores encashed for non rectification of defects

State	S. No.	Name of the Project	NH No.	Length (in Km.)	Cost (in Cr.)	Details of damages / defects	Action Taken
Karnataka	12	Hospet-Bellary-Karnataka/AP Border from Km.280.080 to Km.375.450	63	95.37	870	Cracks are developed in PQC for 8.30 km.	The terminated project has been re-awarded for completing the balance works of the subject project in March, 2023 with a completion period of 2 years from the Appointed Date (May, 2023). The Cost of repairs and rectification of poor quality works (damaged PQC) has been included in the present contract which was already recovered from earlier Contractor.
	13	4-laning of Hubli – Hospet section	67 (Old NH-63)	143.721	1334.70	Cracks on PQC Pavement and widening of longitudinal joints on pavement	Contractor has initiated actions for rectification of damages.
Maharashtra	14	Bodhwad- Muktainagar - Barhanpur road Section - II Km 44/760 Km.78/145.	753L	33.385	178.26	Cracked panels	Contractor has initiated actions for rectification of damages. DLP period is extended by Six months.
	15	Section -II Kolde to Khetia Road km.50+200 to 98+800	752G	48.6	509.18	Cracked panels	Contractor has initiated actions for rectification of damages.
	16	Mehkar-Ajispur Road	548C	35.836	230.2	Cracked panels	The Performance BG of Contractor is forfeited. Process initiated for rectification of damages.
	17	Bhokar-Sarsam	161A	33	295.09	Cracked panels	Contractor has initiated actions for rectification of damages.
	18	Sillod-Fardapur	753F	32.63	432.98	Cracked panels	Contractor has initiated actions for rectification of damages.
	19	Parbhani to Gangakhed	752K	35.885	237.88(After COS 239.99)	Cracked panels	Contractor has executed the panel replacement / rectification works.
	20	Amdi - Saoner	753	39.58	396.91	Cracked panels	Contractor has initiated actions for rectification of damages.

State	S. No.	Name of the Project	NH No.	Length (in Km.)	Cost (in Cr.)	Details of damages / defects	Action Taken
	21	Up-gradation to Four Lane with Paved Shoulder configuration of the highway starting from existing km 88.400 (Savali Vihir) to km 163.400 (Start of Ahmednagar Bypass) (Design Length – 75.000 km) section of NH-160 in the State of Maharashtra under Bharatmala Pariyojana on EPC Mode.	160	75	418.2	Poor and inferior quality of work.	NHAI Terminated EPC Contract.
	22	Construction of (i) White Topping on the existing bituminous carriageway & service Road from km. 381.000 to Km. 502.000 (ii) VUP with service road at Delhi Darbar km. 499.150 (20m x 5.5m) (iii) VUP with service road at Pandurangwadi km. 501.250 (20m x 4.5m) (iv) LVUP with service road at Sativali km. 454.180 (12m x 4.0m) & (v) Safety measures on Surat-Dahisar Section of NH-48 in the State of Maharashtra on EPC mode Project.	48	121	553	Localized failures in the white topping pavement such as cracks, potholes, tyre marks etc	Contractor has initiated actions for rectification of damages..
Rajasthan	23	Delhi Vadodara Expressway NE-4 Pkg.06	NE-4	31.16	931	Rutting, Raincuts, potholes & settlement	Penalty imposed on each contractor amounting to Rs. 50 Lakhs for non-rectification of defects in the stipulated time frame as per provision of contract agreement.
	24	Delhi Vadodara Expressway NE-4 Pkg.07		31.26	946		
	25	Delhi Vadodara Expressway NE-4 Pkg.08		33.05	880.11		
	26	Delhi Vadodara Expressway NE-4 Pkg.09		45.64	1258.1		

State	S. No.	Name of the Project	NH No.	Length (in Km.)	Cost (in Cr.)	Details of damages / defects	Action Taken
	27	Construction of 6-lane access controlled Greenfield highway from km 28+70 to Km. 53+0 of Sangariya (near Chautala)-Rasisar (near Bikaner) section of NH-754K as a part of Amritsar-Jamnagar Economic Corridor in the State of Rajasthan under Bharatmala Pariyojana -Phase-I (AJ/SR-Package-2)	754K (New: NH 754A)	24.300	575.00	Deficiencies in riding quality and settlement at some locations observed	(i) Damage of Rs. 50.00 Lakhs imposed upon the Contractor. (ii) Two key personnel of Authority Engineer team were terminated due to poor supervision.
	28	Delhi-Vadodara Expressway Pkg. 4	NE-4	36.9	997.11	Rutting & settlement of approach	Damages amounting to Rs. 1.06 Cr. imposed for delayed maintenance. Also, IIT Kharagpur has been engaged for detailed study for permanent rectification of defects.
	29	Delhi-Vadodara Expressway Pkg. 5	NE-4	36.14	947	Rutting, settlement of approach & bulging of RE wall	Damages amounting to Rs. 88.32 lakhs imposed for delayed maintenance. Bulging of RE wall has been rectified as per suggestions of CRR. Majority of the rutting has been rectified. Further, in addition to above, IIT Kharagpur has been engaged for detailed study for permanent rectification of defects.
	30	Construction of 6-lane access controlled Greenfield highway from km 53+000 to Km. 88+000 of Sangariya (near Chautala)-Rasisar (near Bikaner) section of NH-754K as a part of Amritsar-Jamnagar Economic Corridor in the State of Rajasthan under Bharatmala Pariyojana -Phase-I (AJ/SR-Package-3)	754K (New: NH 754A)	35.000	504.89	Failure of the nose structure while launching of 83 mtr single span truss bridge	Penalty of Rs. 1.00 Cr. imposed and warning for debarment action for any future instances upon the Contractor was issued. Debarment of fabrication team and Designer team issued for the period of 02 years in NHA works. Penalty of Rs. 20 Lakhs and warning for debarment action for any future instances upon the Authority Engineer. Debarment of Senior bridge Engineer deployed by the

State	S. No.	Name of the Project	NH No.	Length (in Km.)	Cost (in Cr.)	Details of damages / defects	Action Taken
							Authority Engineer issued for a period of 2 years in NHA works.
	31	Delhi-Vadodara Greenfield Alignment (NH-148N) (Pkg-16) (Ch. 427.300 to Ch.452.420) [Major bridge over Takli river near Nayagaon Jageer village to Rajasthan/MP Border]	NE-4	25.125	613.79	Stretch is operational w.e.f. 30.11.2023 and at some locations the settlements observed in approaches of structure	EPC Contractor has rectified damages.
	32	Construction of Nagaur Bypass from existing Km 166/260 to Km 180/500 on NH 65 in the state of Rajasthan on EPC mode	65	19.225	155.76	Uneven riding surface	The Contractor has laid a Bituminous Course over the Concrete Pavement for a stretch of 10.25 km.
Uttar Pradesh	33	Lucknow Ring Road Pkg-3A	Lucknow Ring Road	14.618	292.07	Cracks in PQC Panel in length of 2.886 Km.	Contractor has initiated process for rectification of damages.
	34	Rehabilitation and Up-gradation from km. 285.000 to 326.000 of NH-76 (Kalupur - Lalta Road) to two lane with paved shoulder on EPC mode in the state of Uttar Pradesh	76	41	240.13	Cracks in rigid pavement.	Defect Liability Period has been extended till the rectification of defects observed during DLP. The Quality Auditor engaged by the Ministry has suggested methodology for rectification of defects.
	35	Rehabilitation and Up-gradation from km. 178.000 to 215.000 of NH-76 (Kabrai – Banda Road) to two lane with paved shoulder on EPC mode in the state of Uttar Pradesh	76	37	215.16	Cracks in rigid pavement.	Defect Liability Period has been extended till the rectification of defects observed during DLP. The Quality Auditor engaged by the Ministry has suggested methodology for rectification of defects.
Uttar Pradesh & Uttarakhand	36	4L of Haridwar-Nagina section of NH-74	34 & 734 (old NH-74)	66.916	1659.12	PQC panel cracks	Contractor has initiated process for rectification of damages.

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Uttar Pradesh & Uttarakhand	37	4L of Nagina-Kashipur section of NH-74	734 (old NH-74)	98.793	2535.54	PQC panel cracks, Potholes, Road signages, Rain Cuts etc.	Recoveries initiated from the Contractor as per Schedule-M of EPC contract agreement.
West Bengal	38	Four laning with paved shoulders of NH-6 from Chichra to Kharagpur Km 185.150 to Km 134.400 including rehabilitation of existing four lane from Km 134.400 to Km 129.600 in the state of West Bengal	6 (New NH-49)	55.52	613.08	Cracks in PQC panels	Repaired at the Risk and Cost of EPC Contractor.
Andaman & Nicobar Islands	39	Rehabilitation of km 181.00 to Km 206.00 section in Andaman Trunk Road of NH-4 to Intermediate Lane with hard shoulder in the union Territory of Andaman & Nicobar islands (Total length 25.00 km) on EPC Mode" (Package-VII)	4	25	53.96	Distress, sinking of pavement at various locations.	Process initiated for undertaking repair works at risk and cost of the EPC Contractor.
