

State Level Environment Impact Assessment Authority, Uttar Pradesh

Directorate of Environment, U.P.

Vineet Khand-1, Gomti Nagar, Lucknow - 226 010

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To,

**Shri Awanish Kumar Awasthi,
Chief Executive Officers,
M/s UP Expressway Industrial Development Authority,
C-13, 2nd Floor, Paryatan Bhawan,
VipinKhand, Gomti Nagar,
Lucknow- 226010**

Ref. No.....26...../Parya/SEAC/4632/2018

Date: 10 May, 2019

Sub: Terms of Reference for Construction of 4 Lane Bundelkhand Expressway (expandable to 6 lane), District-Gurgaon, Chitrakoot, Banada, Hamirpur, Mahoba, Jalaun, Auraiya and Etawah, U.P. M/s Uttar Pradesh Expressway Industrial Development Authority (UPEIDA).

Dear Sir,

Please refer to your application/letter dated 09-01-2019, 14-01-2019, 04-01-2019 & 26-02-2019 addressed to the Secretary, SEAC, Directorate of Environment, U.P., Lucknow on the subject as above. The matter was considered by the State Level Expert Appraisal Committee in its meeting held on dated 07/03/2019 and SEIAA in its meeting dated 10/04/2019.

A presentation was made by the project proponent along with their consultant M/s Vardan Environet. The proponent, through the documents submitted and the presentation made, informed the committee that:-

- 1- The environmental clearance is sought for Construction of 4 Lane Bundelkhand Expressway (expandable to 6 lane), District-Gurgaon, Chitrakoot, Banada, Hamirpur, Mahoba, Jalaun, Auraiya and Etawah, U.P. M/s Uttar Pradesh Expressway Industrial Development Authority (UPEIDA).
- 2- Government of UP has decided to take up the development of Bundelkhand Expressway and entrusted the development of the project to UPEIDA
- 3- Proposed Expressway passes through 7 districts namely Chitrakoot, Banda, Hamirpur, Mahoba, Jalaun, Auraiya and Etawah Districts in the state of Uttar Pradesh
- 4- Project alignment is located between 80°45'18.50"E, 25°12'58.79"N and 79°19'53.55"E, 26°54'33.56"N
- 5- The project is a green field expressway project which requires land acquisition of 3641.6269 ha (approx.)
- 6- Forest land estimated to be diverted as 52 ha (approx.)
- 7- No wildlife sanctuary/National Park exists nearer to the proposed project
- 8- The proposed alignment is crossing 3 rivers namely Ken (km 63+825), Betwa (157+500) and Yamuna (km 234+017). The total requirement of water is estimated at 11000 KL/day. Water will be sourced from surface/ground water sources.
- 9- The land use pattern in 10 Km study area is predominantly agriculture followed by habitation area.
- 10- Proposed access controlled Bundelkhand Expressway link of 4-lane (expandable to 6 lane) will provide direct high speed connectivity of Bundelkhand Region with entire state.
- 11- High speed connectivity starts from Km 266.6 of NH 76/new NH 35 (Varanasi- Banda road), near Bharatkoop to km 133.778 of Agra-Lucknow Expressway near village Kudrail in Etawah district.
- 12- No critically polluted areas exist along project alignment.
- 13- Approximately 30000 nos. of trees exist along the proposed alignment. Compensatory plantation shall be carried out as Govt. regulations.

14- Approx. 300 structures will be affected due to proposed Expressway. All project affected families shall be compensated as per Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013.

15- The total estimated (Project) Civil Cost is approximately Rs. 8,864 crores.

16- Project details:

Sl No	Items	Description
1	Length	296.264 km
2	Right of Way (RoW)	110 m
3	Design Speed	120 km/hr
4	Slope%	2.5% camber
5	Start Point	Km 266.6 of NH-76/new NH-35 (Varanasi- Banda road), near Bharatkoop, Chitrakoot district
6	End Point	Km 133.778 of Agra-Lucknow Expressway near village Kudrail in Etawah district

17- The project proposal fall under category 7(f) of EIA Notification, 2006 (as amended).

The committee discussed the matter and recommended to issue the terms of reference (TOR) for the preparation of EIA regarding the project as follows:

1. All pages of technical documents/EIA/EMP etc. should be signed by the consultant and project proponent both.
2. Copy of all the analysis reports signed by analyst approved by NABL or MoEF&CC shall be annexed with the EIA report and original analysis reports should be presented at the time of presentation.
3. MOU signed between the project proponent and the consultant should be submitted.
4. Provided the land details with acquisition status.
5. Details of water consumption, treatment and water quality to be provided to work out.
6. Explore the possibility for treated water for contraction.
7. Top soil management details.
8. Examine and submit a brief description of the project, project name, nature, size, its importance to the region/state and the country.
9. Tree cutting permission.
10. Bitumen layer to be provided on road.
11. Mobile bio toilets to be provided.
12. Use of the plastic waste in road construction as per MoEF guild line.
13. Tree is to be provided on the both side of the road. Number of the trees to be worked out.
14. Both side drain to be connected to RWH structures.
15. Air Quality monitoring stations to be provided at toll plaza.
16. The EIA should include the fly ash generating potential of the surrounding areas and submit a plan for utilizing fly ash generation within 100 km of the project.
17. The EIA should have clear cut recommendations on resettlement and rehabilitation options for the population effected.
18. The EIA should also address to the impacts of vehicular emissions and air quality and river water quality and the aquatic life.
19. The prediction of impacts on water balance should also include the effects of compaction on marginal bund overlaid by road traffic on the permeability of underlying sub soils and the ground water flow to the river, if any.
20. The Wetlands in the study area should be suitably mapped. The report should examine the impact of the proposed activities on wetlands.

21. The EIA should address to the environmental impacts of ancillary activities of projects which are likely to come up such as garages, petrol pumps and motels etc.
22. The EIA should also address to the migratory paths of wild life.
23. The EIA should also address to all the phases (acquisition of land, preparation, construction and operation) of the project while evaluating the impact on environment and drawing up the management plan.
24. The report should try to analyze the impact of the project as a catalyst to development of slums and other unorganized activities. The EMP should control this through well defined land use provisions.
25. All sampling locations studied should be strictly mapped using digital mapping/GIS techniques.
26. Water conservation, reduction in use and waste water management during construction.
27. Provision of housing, fuel, safe drinking water and sanitations for the contract labour.
28. The EIA should strictly follow the methods of monitoring and analysis, annexure-iv: Guidance for assessment of representativeness and reliability base line environmental attributes detailed under EIA manual, January, 2001 and other guidelines in the matter.
29. In case the project involves diversion of forests land, guidelines under OM dated 20.03.2013 may be followed and necessary action taken accordingly.
30. Details of any litigation(s) pending against the project and/or any directions or orders passed by any court of law/any statutory authority against the project to be detailed out.
31. Submit detailed alignment plan, with details such as nature of terrain (plain, rolling, hilly), land use pattern, habitation, cropping pattern, forest area, environmentally sensitive places, mangroves, notified industrial areas, sand dunes, sea, river, lake, details of villages, teshils, districts and states, latitude and longitude for important locations falling on the alignment by employing remote sensing techniques followed by ground truthing and also through secondary data sources.
32. Describe various alternatives considered, procedures and criteria adopted for selection of the final alternative with reasons.
33. Submit Land use map of the study area to a scale of 1: 25,000 based on recent satellite imagery delineating the crop lands (both single and double crop), agricultural plantations, fallow lands, waste lands, water bodies, built-up areas, forest area and other surface features such as railway tracks, ports, airports, roads, and major industries etc. and submit a detailed ground surveyed map on 1:2000 scale showing the existing features falling within the right of way namely trees, structures including archeological & religious, monuments etc. if any.
34. If the proposed route is passing through any hilly area, examine and submit the stability of slopes, if the proposed road is to pass through cutting or embankment / control of soil erosion from embankment. Landslide, rock fall protection measures to be indicated.
35. If the proposed route involves tunneling, the details of the tunnel and locations of tunneling with geological structural fraction should be provided. In case the road passes through a flood plain of the river, the details of micro drainage, flood passages and information on high levels flood periodicity at least of last 50 years in the area should be examined.
36. The projects is located within 10km. of the sanctuary a map duly authenticated by Chief Wildlife Warden showing these features vis-à-vis the project location and the recommendations or comments of the Chief Wildlife Warden thereon should be furnished at the stage of EC.
37. Study regarding the Animal bypasses / underpasses etc. across the habitation areas shall be carried out. Adequate cattle passes for the movement of agriculture material shall be provided at the stretches passing through habitation areas.
38. The information should be provided about the details of the trees to be cut including their species and whether it also involves any protected or endangered species. Measures taken to

- reduce the number of the trees to be removed should be explained in detail. Submit the details of compensatory plantation. Explore the possibilities of relocating the existing trees. Animal and wild life crossings to be provided in areas inhabited by wild life.
39. Necessary green belt shall be provided on both sides of the highway with proper central verge and cost provision should be made for regular maintenance.
 40. If the proposed route is passing through a city or town, with houses and human habitation on the either side of the road, the necessity for provision of bypasses/diversions/under passes shall be examined and submitted. The proposal should also indicate the location of wayside amenities, which should include petrol station/service centre, rest areas including public conveyance, etc. Noise reduction measures should also be indicated.
 41. Submit details about measures taken for the pedestrian safety and construction of underpasses and foot-over bridges along with flyovers and interchanges, If any.
 42. Assess whether there is a possibility that the proposed project will adversely affect road traffic in the surrounding areas (e.g. by causing increases in traffic congestion and traffic accidents). Specific care be also taken to ensure that by passes have a sufficient buffer to prevent unwanted obstructions defying the purpose of the by pass
 43. Examine and submit the details of use of fly ash in the road construction, if the project road is located within the 100 km from the Thermal Power Plant.
 44. Examine and submit the details of sand quarry, borrow area and rehabilitation.
 45. Explore the possibilities of utilizing the debris/ waste materials available in and around the project area.
 46. Submit the details on compliance with respect to Research Track Notification of MoRTH
 47. Examine and submit the details of sand quarry and borrow area as per OM no.2-30/2012-IA-III dated 18.12.2012 on 'Rationalization of procedure for Environmental Clearance for Highway Projects involving borrow areas for soil and earth" as modified vide OM of even no. dated March 19, 2013.
 48. Climate and meteorology (max and min temperature, relative humidity, rainfall, frequency of tropical cyclone and snow fall); the nearest IMD meteorological station from which climatological data have been obtained to be indicated.
 49. The air quality monitoring should be carried out as per the new notification issued on 16th November, 2009.
 50. Identify project activities during construction and operation phases, which will affect the noise levels and the potential for increased noise resulting from this project. Discuss the effect of noise levels on nearby habitation during the construction and operational phases of the proposed highway. Identify noise reduction measures and traffic management strategies to be deployed for reducing the negative impact if any. Prediction of noise levels should be done by using mathematical modeling at different representative locations.
 51. Examine the impact during construction activities due to generation of fugitive dust from crusher units, air emissions from hot mix plants and vehicles used for transportation of materials and prediction of impact on ambient air quality using appropriate mathematical model, description of model, input requirement and reference of derivation, distribution of major pollutants and presentation in tabular form for easy interpretation shall be carried out.
 52. Also examine and submit the details about the protection to existing habitations from dust, noise, odour etc. during construction stage. IRC guidelines to be followed for traffic safety while passing through the habitat.
 53. If the proposed route involves cutting of earth, the details of area to be cut, depth of cut, locations, soil type, volume and quantity of earth and other materials to be removed with location of disposal/ dump site along with necessary permission.
 54. If the proposed route is passing through low lying areas, details of fill materials and initial and final levels after filling above MSL, should be examined and submit.

55. Examine and submit the water bodies including the seasonal ones within the corridor of impacts along with their status, volumetric capacity, quality likely impacts on them due to the project.
56. Examine and submit details of water quantity required and source of water including water requirement during the construction stage with supporting data and also categorization of ground water based on the CGWB classification.
57. Examine and submit the details of measures taken during constructions of bridges across river/ canal/major or minor drains keeping in view the flooding of the rivers and the life span of the existing bridges. Provision of speed breakers, safety signals, service lanes and foot paths should be examined at appropriate locations throughout the proposed road to avoid the accidents.
58. If there will be any change in the drainage pattern after the proposed activity, details of changes shall be examined and submitted.
59. Rain water harvesting pit should be at least 3 - 5 m. above the highest ground water table. Provision shall be made for oil and grease removal from surface runoff.
60. If there is a possibility that the construction/widening of road will cause impact such as destruction of forest, poaching, reductions in wetland areas, if so, examine the impact and submit details.
61. Submit the details of road safety, signage, service roads, vehicular under passes, accident prone zone and the mitigation measures.
62. IRC guidelines shall be followed for widening & up-gradation of road.
63. Submit details of social impact assessment due to the proposed construction of road.
64. Examine road design standards, safety equipment specifications and Management System training to ensure that design details take account of safety concerns and submit the traffic management plan.
65. Accident data and geographic distribution should be reviewed and analyzed to predict and identify trends - in case of expansion of the existing highway and provide Post accident emergency assistance and medical care to accident victims.
66. If the proposed project involves any land reclamation, details to be provided for which activity land to reclaim and the area of land to be reclaimed.
67. Details of the properties, houses, businesses religious and social places etc. activities likely to be effected by land acquisition and their financial loses annually.
68. Detailed R&R plan with data on the existing socio-economic status of the population in the study area and broad plan for resettlement of the displaced population, site for the resettlement colony, alternative livelihood concerns/employment and rehabilitation of the displaced people, civil and housing amenities being offered, etc and the schedule of the implementation of the project specific.
69. Submit details of Corporate Social Responsibility. Necessary provisions should be made in the budget.
70. Estimated cost of the project including environmental monitoring cost and funding agencies, whether governmental or on the basis of BOT etc and provide details of budget provisions (capital & recurring) for the project specific R&R Plan.
71. Submit environmental management and monitoring plan for all phases of the project viz. construction and operation.
72. Details of blasting if any, methodology/technique adopted, applicable regulations/permissions, timing of blasting, mitigation measures proposed. Keeping in view mating season of wild life.
73. In case of river/ creek crossing, details of the proposed bridges connecting on either banks, the design and traffic circulation at this junction with simulation studies.

74. Details to ensure free flow of water in case the alignment passes through water bodies/river/ streams etc.
75. In case of bye passes, the details of access control from the nearby habitation/habitation which may come up after the establishment of road.
76. Bridge design in eco sensitive area / mountains be examined keeping in view the rock classification hydrology etc.
77. Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.
78. The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.


This is to request you to take further necessary action in matter as per provisions of Gazette Notification No. S.O. 1533(E) dated 14/09/2006, as amended. You are advised to submit the EIA/EMP for further consideration of the matter as per procedure laid down in the Gazette Notification SO 1533(E) dated 14/09/2006 as amended. The matter will not be considered pending till your reply as above is received.


(Shruti Shukla)
Nodal, SEIAA/
Deputy Director

No...../Parya/SEAC/4632/2018 Dated: As above

Copy with enclosure for Information and necessary action to:

1. The Principal Secretary, Department of Environment, Govt. of Uttar Pradesh, Lucknow.
2. Advisor, IA Division, Ministry of Environment, Forests & Climate Change, Govt. of India, Indira Paryavaran Bhawan, Jor Bagh Road, Aliganj, New Delhi.
3. Additional Director, Regional Office, Ministry of Environment & Forests, (Central Region), Kendriya Bhawan, 5th Floor, Sector-H, Aliganj, Lucknow.
4. District Magistrate, Gurgaon, Chitrakoot, Banada, Hamirpur, Mahoba, Jalaun, Auraiya and Etawah.
5. The Member Secretary, U.P. Pollution Control Board, TC-12V, Paryavaran Bhawan, Vibhuti Khand, Gomti Nagar, Lucknow.
6. Copy to Web Master/ guard file.


(Shruti Shukla)
Nodal, SEIAA/
Deputy Director