

Bihar State Highways Roads Project BSHP – I, SH-69

Bihar State Road Development Corporation Limited
(A Government of Bihar Undertaking)

*Annual
Environmental Management Plan
Implementation Monitoring Report for
Dumariya to Ranitalab Road (SH-69)*

January to December, 2012



Fighting Poverty in Asia and the Pacific



EMPLOYER



CONSULTANT



CONTRACTOR

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Project	:	Bihar State Highway Project, Package – I
Sub Project	:	Dumariya- Ranitalab Road Project (SH-69)
Location	:	Dumariya to Ranitalab, Bihar
Date	:	Updated till December 31, 2012
Supervision consultant/ Monitoring Agency	:	URS Scott Wilson India Private Limited
Implementing Agency	:	Bihar State Road Development Corporation Limited
Contractor	:	Gammon India Limited

1. Statutory Compliance Inspection Monitoring:

Statutory Environmental Requirements	Compliance Status
Approval for Tree Cutting	The permission for tree cutting is under process at MoEF, Bhubaneswar. Approval is awaited.
Consents to Operate	Applied to Bihar State Pollution Control Board, Patna for renewal of the “consents to operate” for Bishnubigha and Kurtha Camp – renewed consents are awaited. The existing consents were valid up to March 31, 2012.
HMP	Applied for the renewal of the consent
WMM	Applied for the renewal of the consent
Batching Plant	Applied for the renewal of the consent
Stone Crushers	Not applicable, the Contractor is procuring stone aggregate from market
NOC for fuel Station	License has been obtained from the district authority
PUC Certificates	PUC certificates are available with contractor
Labour License	Obtained, valid till March 28, 2013

2. Contractor(s) Environmental Awareness:

Contractor(s) Environmental Awareness	Yes/ No	Action Required	Contractor Response/ Comment
Contractor(s) aware of mitigation measures?	Yes	Mitigation measures to be strictly followed.	Willing to implement the mitigation measures suggested in the EMP and IEE.
Contractor (s) have a copy of EMP	Yes	Ground implementation of measures suggested in Contract document work specifications, relevant IRC Codes and the MoEF notifications.	Willing to comply with the mitigation measures mentioned in the EMP and IEE. Also agreeable to accept the regulatory requirements updated time to time.

3. Mitigation Measures Compliance Inspection:

Impact /Mitigation Measure (from EMP)	<ul style="list-style-type: none"> ▪ Regulatory permits/license ▪ Impact on ambient air, noise, water and soil quality ▪ Water and Soil Contamination ▪ Waste Management ▪ Surface water hydrology ▪ Flora and Fauna ▪ Health and safety of the construction workers ▪ Rehabilitation of temporary lands, acquired for the borrowing of soil and establishment of the construction camps. ▪ Traffic safety
Mitigations Implemented (Yes/No)	Yes, Mostly implemented
Mitigations Effective	2 (Poor)
Impact (Observed/Location)	No adverse impacts observed during the site visits
Action Required	<ul style="list-style-type: none"> ▪ Obtain renewed “consents to operate” from Bihar State Pollution Control Board ▪ Obtain “consents to operate” from Bihar State Pollution Control Board for Bankeybazar camp. ▪ Fugitive emissions from the operation of the construction equipments need attention ▪ Submit renewed Pollution Under Control Certificates (PUCs) ▪ Secondary containment for the petroleum product storage and handlings ▪ Obtain license to store compressed gas in cylinders under Rule 44, Gas Cylinders Rules, 2004. ▪ Proper disposal of used/waste oil and acid-lead batteries. ▪ Housekeeping at the construction camps need to be improved ▪ Restore the surface hydrological flow ▪ Ensure adequate supply of Personal Protective Equipment (PPE) and encourage workers to use these equipments. ▪ Establish an accident reporting mechanism ▪ Preparation of redevelopment/closure plan for borrows area in compliance with the terms and condition agreed with land owners. ▪ Obtain post rehabilitation letter of satisfaction from respective landowner ▪ Warning and informatory traffic signs are to be displayed.
Contactor Response/ Comment	Implementing EMP as given in the IEE and advised & suggested, time to time by DGM/Manager (PIU), Environment Specialist, Resident Engineers and Team Leader of Supervision Consultant. Warning and informatory traffic signs are displayed at site. However if it is required to improve more, we must do that as suggested , by DGM/Manager (PIU) , Environment

	<p>specialist, Resident Engineers and Team Leader of Supervision Consultant.</p> <p>We can assure for adequate supply of PPEs to all & we must try to encourage the people for using PPEs.</p> <p>We never store more than 100 kg of LPG. If Any time it exceeds we must try to obtain the license.</p> <p>All PUC certificate are already posses with us & Renewed PUC will be submitted to you very soon.</p> <p>For emission related matter please check our pre submitted environment monitoring report.</p> <p>Accident report mechanism is also followed at site. However if improvement required we must try to improve it as advised and suggested , time to time by DGM/Manager (PIU) , Environment specialist, Resident Engineers and Team Leader of Supervision Consultant.</p> <p>We are in the process of rehabilitate the borrow areas which are closed. After rehabilitation we must collect the letter of satisfaction from land owner.</p> <p>Housekeeping of camp is quite disturbed due to monsoon & rain. But we assure you for improvement.</p> <p>We are in the process of reselling of Used lead acid cells, waste oils etc.</p>
Endorsed by	
Monitoring Agency	URS Scott Wilson India Private Limited
Implementing Agency	Bihar State Road Development Corporation Limited

***Mitigation effective Rating Criteria (Indicative example)**

1	Very Good	All required mitigations implemented
2	Good	Majority of required mitigations implemented
3	Fair	Some mitigation implemented
4	Poor	Few mitigation implemented
5	Very Poor	Very little mitigation implemented

4. Water Quality Monitoring:

a) Drinking water quality

Parameter	Color, Odour, Taste, pH, Turbidity, Total Dissolved Solid, Alkalinity, Total Hardness, Fluoride, Sulphate, Chloride, Residual Free Chlorine, Iron, Calcium, Total Coliform
Date/Location	May 12, 2012: camps at Bankeybazar, Kurtha, Bishunbigha and Sherghati
Measured by	Microtech System & Services, Dhanbad
Monitoring Equipment/ Method	The grab samples of water were collected as per IS 3025: 1964. The samples for chemical analysis were stored in the polyethylene bottles, whereas samples for the bacteriological analysis were preserved in sterilized bottles.
Results	In all samples, the measured parameters were within the prescribed limit for drinking water (IS: 10500).
Standard	Drinking water standards as per IS: 10500

% Exceedence	Nil
Action Required	No action required
Frequency	Quarterly, except for the monsoon season
Responsibility	Contractor
Budget	
Contractor Responses/Comments	
Endorsed by	
Monitoring Agency	URS Scott Wilson India Private Limited
Implementing Agency	Bihar State Road Development Corporation Limited

5. Air Quality Monitoring:

Parameter	PM ₁₀ , PM _{2.5} , SO ₂ , NO _x , CO, Pb
Date/Location	May 20 – 22, 2012 at construction camps in Bankeybazar, Bishunbiga and Kurtha
Measured by	Microtech System & Services, Dhanbad
Monitoring Equipment/Method	<p>PM₁₀: Respirable Dust Sampler method (IS: 5182 Part 4: 2006)</p> <p>PM_{2.5}: Fine Particulate Sampler method (IS: 5182 Part 4: 2006)</p> <p>SO₂: Improved West and Geake method (IS: 5182 Part 2: 2001)</p> <p>NO_x: Jacob and Hochheiser modified (NaOH-NaAsO₂) method (IS: 5182 Part 6: 2001)</p> <p>CO: Indicator Tube method (IS: 5182 Part 10: 1999)</p> <p>Pb: IS: 5182 Part 22</p>
Result	At all locations, the monitored parameters were within prescribed limit of NAAQS
Standard	National Ambient Air Quality Standards (2009)
% Exceedence	Nil
Action Required	No action required
Frequency	Quarterly, except for the monsoon season
Responsibility	Contractor
Budget	
Contractor Responses/Comments	
Endorsed by	
Monitoring Agency	URS Scott Wilson India Private Limited
Implementing Agency	Bihar State Road Development Corporation Limited

6. Noise Level Monitoring:

Parameter	Noise level in day and night L_{eq} dB(A)
Date/Location	May 20 – 22, 2012 at construction camps in Bishunbigha, Bankeybazar, Maygra, and Panchanpura
Measured by	Vision Labs, Hyderabad
Monitoring Equipment/Method	Data logger Sound Level Meter (Pulsar make, Model 30)
Result	Noise levels were within the prescribed limit of MoEF.
Standard	The Noise Pollution (Regulation And Control) Rules, 2000, rule 3(1) and 4(1))
% Exceedence	Nil
Action Required	Noise levels should be reported as per the Noise Pollution (Regulation And Control) Rules, 2000 However, the ambient air qualities in respect to noise close to the plants were acceptable, but protection against the effects of noise to the machine operators and helpers should be provided in case of longer exposure.
Frequency	Quarterly, except for the monsoon season
Responsibility	Contractor
Budget	
Contractor Response/Comments	Please find the attached Revised noise pollution report format on this regards. All machines are new purchased & sound creation level is within permissible limit. So no action is required. However if any time it exceeds, we must take precautionary measures.
Endorsed by	
Monitoring Agency	URS Scott Wilson India Private Limited
Implementing Agency	Bihar State Road Development Corporation Limited

7. Environmental Incidents during Reporting Period:

Environmental Incidents (accidents, spills complaints)	None
Date/Location	
Reported by	
Description/Location	
Action Taken	
Further Action required	
Endorsed by	
Implementing Agency	
Monitoring Agency	

8. Summary of Actions required and follow-up:

<p>Action Required</p>	<ul style="list-style-type: none"> ▪ Obtain renewed “consents to operate” from Bihar State Pollution Control Board ▪ Obtain “consents to operate” from Bihar State Pollution Control Board for Bankeybazar camp. ▪ Fugitive emissions from the operation of the construction equipments need attention ▪ Submit renewed Pollution Under Control Certificates (PUCs) ▪ Secondary containment for the petroleum product storage and handlings ▪ Obtain license to store compressed gas in cylinders under Rule 44, Gas Cylinders Rules, 2004. ▪ Proper disposal of used/waste oil and acid-lead batteries. ▪ Housekeeping at the construction camps need to be improved ▪ Restore the surface hydrological flow ▪ Ensure adequate supply of Personal Protective Equipment (PPE) and encourage workers to use these equipments. ▪ Establish an accident reporting mechanism ▪ Preparation of redevelopment/closure plan for borrows area in compliance with the terms and condition agreed with land owners. ▪ Obtain post rehabilitation letter of satisfaction from respective landowner ▪ Warning and informatory traffic signs are to be displayed. 																	
<p>Timeframe</p>	<table border="1"> <tr><td>Regulatory Permits</td><td>within one month</td></tr> <tr><td>Fugitive emissions</td><td>Immediate</td></tr> <tr><td>PUCs</td><td>within 15 days</td></tr> <tr><td>Secondary containment</td><td>Within one week</td></tr> <tr><td>Surface water hydrology</td><td>Immediate</td></tr> <tr><td>Personal safety measures</td><td>provide protective gear to workers before engaging them on any construction activity</td></tr> <tr><td>Accident Reporting</td><td>within one month</td></tr> <tr><td>Borrow area</td><td>Rehabilitate within 15days from the date of last activity and submit the report</td></tr> </table>	Regulatory Permits	within one month	Fugitive emissions	Immediate	PUCs	within 15 days	Secondary containment	Within one week	Surface water hydrology	Immediate	Personal safety measures	provide protective gear to workers before engaging them on any construction activity	Accident Reporting	within one month	Borrow area	Rehabilitate within 15days from the date of last activity and submit the report	
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<p>Responsible parties</p>	<p>Contractor, Supervision Consultant.</p>																	
<p>Follow-up (to be completed if inspection/monitoring indicate action are required)</p>	<p>Follow-up on the action items by the Environmental Specialist, Resident Engineer and Team Leader of the Supervision Consultant</p>																	
<p>Required Action Taken</p>	<p>In progress</p>																	
<p>Effectiveness</p>	<p>scope for further improvements</p>																	

9. Follow up actions:

- Checking of the progress in obtaining NOCs (Consents to operate) for Stone Crushers
- Secondary containment for the petroleum product storage and handlings
- Obtain license to store compressed gas in cylinders under Rule 44, Gas Cylinders Rules, 2004.
- Proper disposal of solid and hazardous wastes.
- Personal Protective Equipment (PPE) and encourage workers to use these equipment.
- Redevelopment/closure plan for borrows area in compliance with the terms and condition agreed with land owners. Post monsoon inspection of borrow area with respect to rehabilitation

10. Conclusions:

- The overall EMP compliance at the construction camps were satisfactory and require regular attention.
- The renewable of consent to operate required for HMP and DG Set are required
- Issues relating to the solid and Hazardous waste disposal are yet to be addressed by the contractor.
- The contractor has appointed an Environmental, Health and Safety Officer
- The environmental pollution monitoring was conducted in the second quarter only the monitoring results indicates that the air, water and noise quality were within the compliance levels.

11. Recommendations for a better compliance to EMP Implementation:

Subject to the extent of environmental non-compliance, strict actions are required for the better implementation of EMP. The work must be stopped in case of regulatory and safety non-compliances.