



Environmental Monitoring Report

Project Number: 32298-03
February 2011

IND: Madhya Pradesh Power Sector Investment Program (Project 2)

Prepared by

Xavier Institute of Development Action and Studies, Jabalpur, Madhya Pradesh

For

Executing Agency

Madhya Pradesh Poorv Kshetra Vidyut Vitaran Company Ltd.

This report has been submitted to ADB by the Madhya Pradesh Poorv Kshetra Vidyut Vitaran Company Ltd. and is made publicly available in accordance with ADB's public communications policy (2005). It does not necessarily reflect the views of ADB.

Asian Development Bank



M.P. POORV KSHETRA VIDYUT VITARAN Co. Ltd.

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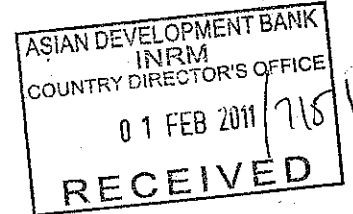
NO.DISCOM/EZ/ADB/ 209

Jabalpur, dated: 29.1.2011

From

A.K.Agarwal,
Chief Engineer (ADB),

To
Mr. Hun Kim, Country Director,
India Resident Mission,
Asian Development Bank, 4 San Martin Marg,
Chanakyapuri, New Delhi- 110 021.



FAX 011-26870955

Sub Loans 2324-IND: Madhya Pradesh Power Sector Investment Program (Project 2) and Loan No. 2347-IND Madhya Pradesh Power Sector Investment Program (Project 4) – Submission of environmental due diligence report and half yearly environmental monitoring report.

Ref: 1. Your letter dated 19th November 2010.
2. This office letter No.DISCOM/EZ/ADB/788 dated 10.12.2010.

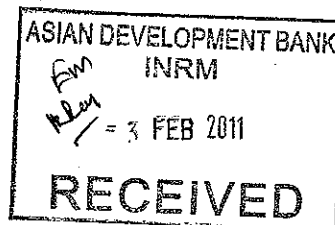
Dear Sir,

With reference to the above, please find enclosed the following environmental reports in respect of East Discom.

1. Environmental due diligence report in respect of Loan No. 2324 & 2347 separately.
2. Half yearly environmental monitoring report for the period 1.1.10 to 30.6.10 and 1.7.10 to 31.12.10 in respect of Loan No. 2324 & 2347 separately.

Thanking you,

Encl: As above.



Yours faithfully,

(A.K.AGARWAL)
CHIEF ENGINEER-ADB

Copy to:

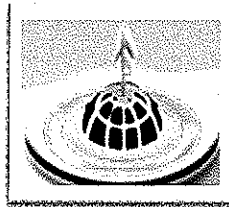
Shri Girish Mahajan, Environment Officer,
India Resident Mission,
Asian Development Bank, 4 San Martin Marg,
Chanakyapuri, New Delhi- 110 021.

Environmental Monitoring Report

Prepared by:

Xavier Institute of Development Action and Studies

Jabalpur, Madhya Pradesh



Submitted to

MP Poorv Kshetra Vidyut Vitharan Company Limited

Jabalpur, Madhya Pradesh

(ADB Loan 2324)



January 2010 to June 2010



Xavier Institute - XIDAS

(Xavier Institute of Development Action and Studies)

27/1/11

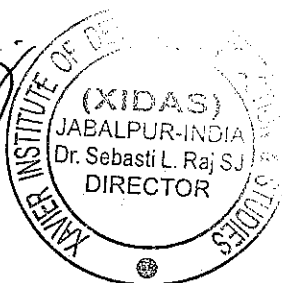
To
The Chief Engineer ADB
DISCOM E
Jabalpur

Subject: Environmental monitoring report for the period Jan to June 2010 for ADB Loan 2324

Dear Sir,
Kindly find enclosed the environmental monitoring report for the period January to June 2010 for ADB Loan 2324.

Yours Sincerely,

Sebasti L. Raj
Dr. Sebast L. Raj
Director



List of Abbreviations

| S. No. | Abbreviations | Full Form |
|--------|---------------|--|
| 1. | MPPKVV | Madhya Pradesh Poorv Kshetra Vidyut Vitharan Company Limited |
| 2. | LVDS | Low Voltage Distribution System |
| 3. | HVDS | High Voltage Distribution System |
| 4. | EARF | Environment Assessment Review Framework |
| 5. | ADB | Asian Development Bank |
| 6. | EMP | Environment Management Plan |
| 7. | EMMP | Environment Management and Monitoring Plan |
| 8. | IEE | Initial Environment Examination Report |
| 9. | DDR | Due Diligence Report |
| 10. | EIA | Environment Impact Assessment |
| 11. | ESMU | Environment Safeguard Management Unit |
| 12. | GRC | Grievance Redressal Committee |
| 13. | PCB | Polychlorinated biphenyl |
| 14. | CFC | Chloro Fluro Carbon |
| 15. | SOP | Standard Operating Practices |
| 16. | PPE | Personal Protective Equipment |
| 17. | AP | Affected People |

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1.0. Introduction

1.1. Project Description

The Government of Madhya Pradesh through the Government of India has availed a multi-tranche financing facility from the Asian Development Bank to fund the Power Sector Investment Program in the State of Madhya Pradesh. The investment program will cover physical investments in generation, transmission, distribution, energy efficiency and non-physical investments in management investment systems and other areas. A part of the fund is being utilized for the up gradation and improvement of the distribution networks and it is being implemented under ADB Loan 2324 of the project, which is implemented by Madhya Pradesh Poorv Kshetra Vidyut Vitharan Company Limited, Jabalpur (DISCOM E). The major activities proposed under Loan 2324 include construction of HVDS in six distribution circles in East DISCOM of the State, including conversion of about 6897 km of low voltage lines to high voltage lines and installation of 18167 DTRs. Another subproject includes installation of 10,139 Remote Meters. The overall objective of the Investment Program is to address power sector issues and provide a solid foundation for the sustainable growth of the power sector in the jurisdiction of DISCOM E. Table 1.1 depicts the status of implementation of the project.

Table 1.1. Status of Implementation (as on 26.06.2010)

| | Subproject | Location | Works Completed % | |
|----|--|--------------------|-------------------|----------|
| | | | DTRs | LT to HT |
| 1. | Construction of HVDS in six distribution Circles in DISCOM E of the State, including conversion of about 6897 km of low voltage lines to high voltage lines and installation of 18167 nos. DTRs (203 feeders). | Satna Dn. | 37.8 | 27.6 |
| | | Pritvipur Dn. | 63.9 | 42.2 |
| | | Patan Dn. | 35.6 | 26.1 |
| | | Damoh Dn. | 49.3 | 53.8 |
| | | Rewa Dn. | 36.1 | 33.4 |
| 2. | Remote metering of 10,139 nos. LT connection above 10 HP | Whole company area | 90.9 | |

1.2. Scope of Work

Xavier Institute of Development Action and Studies, Jabalpur has been appointed as an Environmental Specialist to undertake the monitoring of all the subprojects under this loan. The objective of the assignment is to establish and assess the environmental performance of ongoing works of the sub-projects, with a view to improve the environmental performance. The scope of work includes the following aspects:

- To assess the compliance of the subprojects with regulatory requirements;
- To assess the adequacy of implementation of loan covenants;
- To assess the adequacy of implementation EARF;
- To assess the adequacy of implementation of ADB safeguards;
- To assess the adequacy of implementation of EMP; and
- To recommend corrective/remedial measure for impacts/implications, if any.

1.3. Approach and Methodology:

The team has reviewed and monitored the implementation of Environmental Management and Monitoring Plans of the ADB approved IEE Reports for all sub-projects. The team has also referred the environmental covenants from respective loan agreements, Environmental Assessment and Review Framework approved by the ADB, Environmental Monitoring Report furnished by DISCOM-E, and Aide-Memoires prepared by ADB. A check list has been prepared to assess the compliance of the sub-projects with the EMP. Site visits were carried out in all the circles during December 2010. The results are detailed in section 2.5.

2.0. Compliance Status

2.1. Compliance with National/State/Local statutory Environmental Requirements

| | Notification/Rules | Compliance Requirement under the Rule | Status |
|----|---|--|--|
| 1 | Environmental Clearance as per EIA Notification 2006, as amended | All development projects listed in Schedule 1 of EIA Notification needs to get prior environmental clearance. | Power distribution projects are excluded from the Schedule 1 list of EIA Notification 2006. |
| 2. | Batteries Management and Handling Amendment Rules 2010 | As per Rule 3, it shall be the responsibility of the bulk consumer to: (i) ensure that used batteries are not disposed of in any manner other than by depositing with the registered dealer/manufacturer/registered recycler/importer/ reconditioner or at the designated collection centres and (ii) file half-yearly return in Form VIII to the State Board. | DISCOM E uses both Lead Acid batteries and Nickel Cadmium batteries (rechargeable batteries). So far, scrap batteries are not generated from this sub-project, as all equipments are new. |
| 3. | Hazardous Waste (Management and Handling) Rules | Used / burned transformer oils to be disposed off in accordance with the Rules | Burnt/used oil of transformers is being disposed off through M/s. Divya Refineries Pvt. Ltd, Satna having valid authorization under Hazardous Waste Rules 1989, which has authorization for five years w.e.f 29.11.2009 (HSMD/RO/MPPCB/Satna/2007 Dated 08.09.2010) from MPPCB. Registration no: B 29016(1378)/1(Reg.)10/HVMD. |
| 4. | Ozone Depleting Substance (Regulation & Control) Rules 2000 | Avoid equipments using CFCs/PCBs | CFCs and PCBs are not used in any equipment. |
| 5 | Air Prevention and Control of Pollution Act, 1981, with Rules | Compliance to National Ambient Air Quality Standard | No complaints received from the locals. |
| 6 | Water (Prevention and Control of Pollution) Act, 1974 with Rules. | Protection of Water Quality Discharge of sewage from project | No siltation of water bodies due to the project; No disposal of sewage from the project; No release of chemicals to the water bodies due to the project. |
| 7. | Noise Pollution (Regulation & Control) Rules, 2000 | Compliance with Ambient Noise Standards in accordance to land use of the area. | No complaints received from the locals. |
| 8. | Forest Act 1980 | Clearance from MoEF/forest department, if the line passes through the forest area. | No area pass through forest |

2.2. Compliance with EARF

| | Compliance Requirement | Compliance Status |
|----|--|--|
| 1. | ESMU will be created within DISCOM E headed by concerned head of the company which will be accountable and responsible for implementation of EMP | Environmental and Social Cell created as per Order No. DISCOM/EZ/WS/ADB/7161 dated 04-12-2009. On 12.04.2010, 16 nodal officers are appointed to act as Environmental and Social Officers. Review meetings are conducted since May 2010. |
| 2. | A Grievance Redressal Committee (GRC) will be constituted in each sub-project location to address all concerns and grievances of the local communities and affected parties. | A GRC is being constituted on 2.6.2010. (Order no. DISCOM/EZ/ADB/3829. Seven members are functioning under the GRC. |
| 3. | An independent monitoring agency will be hired by the EA for undertaking external monitoring. | Not appointed till June 2010. In November 2010, Xavier Institute is appointed as an external agency to carry out the monitoring (order no. DISCOM/EZ/ADB/ENV/694 dated 27.11.2010). |

2.3. Compliance with Loan Covenants

| | Loan Agreement Ref. | Compliance Requirement | Status |
|----|---------------------|---|--|
| 1. | Schedule 5, item 32 | Implement the project strictly in compliance with IEE, EARF, ADB's Policy and environmental regulations of the country. | Compliance to the extent as mentioned in Tables 2.1 to 2.5. |
| 2. | Schedule 5, item 33 | IEE with EMP shall be prepared. Approved IEE and EMP are to be followed during the design constructions and operation phases of the project. EMP should form part of bidding document | IEE with EMP is prepared. None of the sub-projects falls under category A or B sensitive |
| 3. | Schedule 5, Item 35 | Ensure that sub-projects are not located within national parks and wildlife sanctuaries. Ensure that monuments of cultural or historical importance are avoided and the developed EMP with adequate budget is implemented for the sub-project | No area passes through national parks, wild life sanctuaries or areas of cultural or historical importance |
| 4. | Schedule 5, Item 34 | EA shall prepare quarterly progress reports and submit these reports to ADB within 30 days of the end of each quarter. These reports shall provide a narrative description of progress of compliance with environment and social requirements including EMP and RF. | Environmental Monitoring Report upto December 2009 has been submitted to ADB. |

2.4. Compliance with ADBs Environmental Safeguards

| | ADB's Safeguard Requirements | Compliance Requirement | Status |
|-----|---|---|---|
| 1. | Environmental assessment | Identify potential environmental impacts on various resources and determine its significance in consultation with all stakeholders. | The project falls under Category B. An EMP is prepared projecting the environmental impacts. Public consultation was carried out during IEE. |
| 2. | Environmental Planning and Management | The borrower will prepare an EMP that addresses the potential impacts and risks identified by the environmental assessment. | The client has prepared an EMP addressing the potential impact and risks, suggesting mitigation measures. |
| 3. | Information Disclosure | The borrower will submit to ADB the final IEE and monitoring report. | The final IEE report is submitted to ADB. Environmental monitoring report upto December 2009 is also submitted. |
| 4. | Consultation and Participation | The borrower will carry out consultation with APs and other stakeholders. The consultation process and its results are to be documented and reflected in the environmental assessment report. | Public consultation was carried out during IEE. |
| 5. | Grievance Redress Mechanism | The borrower will establish a mechanism to receive and facilitate resolution of APs concerns, complaints and grievances about the project's environmental performance. | A GRC has been constituted on 2.6.2010 (no. DISCOM/EZ/ADB/3829. Seven members are functioning under the GRC. No grievances have been reported till date. |
| 6. | Monitoring and Reporting | The borrower will prepare periodic monitoring reports that describe progress with implementation of the EMP and compliance issues and corrective actions, if any. | First Environmental Monitoring Report is submitted in December 2009. |
| 7. | Unanticipated Environmental Impacts | The borrower will update the environmental assessment and EMP where unanticipated environmental impacts become apparent. | No unanticipated environmental impacts |
| 8. | Biodiversity Conservation and Sustainable NRM | The borrower will assess major threats to the biodiversity. | No habitat change; No degradation to natural habitat & critical habitats; No introduction of invasive alien species No threat to air, water and soil systems |
| 9. | Pollution Prevention and Abatement | Pollution prevention and control technologies consistent with international good practice such as World Bank group EHS Guidelines | No hazardous waste is generated so far. No Pesticide Use No Green House Gas Emissions (No halon or PCBs) |
| 10. | Health and Safety | The borrower will provide workers with a safe and healthy working environment - - provide equipments to minimize risks, render training, document the accidents disease & incidents, provide emergency prevention and response arrangements. | The workers are employed from the village itself. There was no requirement of workers camp, and hence no issues. |
| 11. | Physical Cultural Resources | The borrower to avoid significant damage to physical cultural resources. | No damage to historical/archeological/ architectural /paleontological/religious structures. |

2.5. Compliance with Environmental Management Plan

| No | Proposed Mitigation Measures | Status of Implementation | Measure for Improvement |
|-------------------------------|--|--|-------------------------|
| Pre-construction stage | | | |
| 1. | PCBs not used in transformers or other project facilities or equipment. | PCBs not used in any equipments | ..... |
| 2. | Careful route selection to avoid existing settlements | The lines pass through agricultural land. No impact on dwellings. | ..... |
| 3. | Minimise need to acquire agricultural land | No requirement to acquire agricultural land. | ..... |
| 4. | Avoid encroachment to precious ecological areas by careful site and alignment selection. | No lines pass through precious ecological areas | ..... |
| 5. | Avoid encroachment to forest areas by careful site and alignment selection. | No lines pass through forest areas | ..... |
| 6. | Appropriate placement of Poles to avoid channel interference. | No channel interference observed | ..... |
| Construction phase | | | |
| 1. | Construction technique and machinery selection to minimize noise/ vibration disturbances. | Heavy equipments are not used in the construction works. Only minor civil works like pit digging is involved, as it is the conversion of LT to HT. | ..... |
| 2. | Avoid disturbance of farming activity | Line selection was done to avoid disturbance of farmland. No complaint was received during monitoring. | ..... |
| 3. | Better design to ensure noise will not be a nuisance | Latest BIS or equivalent international standards are adopted for the transformers and other equipments. | ..... |
| 4. | Existing roads and tracks used for construction and maintenance access to the line wherever possible. | No new access roads were constructed for this project activity. | ..... |
| 5. | Marking of vegetation to be removed prior to site clearance and strict control on clearance activities to ensure minimal clearance. | Minimal clearance is ensured. | ..... |
| 6. | Trees allowed growing up to a height within the ROW by maintaining adequate clearance between the top of tree and the regulator as per the regulations. Trees that can survive pruning should be pruned instead of clearing. | No trees were cut/removed for the Project. Existing LT lines were converted into HT lines, only the trimmings of branches is required. | ..... |
| 7. | Construction workers prohibited from harvesting wood in the project area. | The contractor employs local labours. No complaints received from local people in this regard. | ..... |

| | | | |
|-----|---|---|---|
| 8. | Environmentally sound Disposal of scrap materials such as batteries, transformers, conductors, capacitors as per GoI norms | Used oil of the mother transformer is auctioned to registered agency, as mentioned in Table 2.1.3. | ..... |
| 9. | Tree clearances for easement establishment to only involve cutting trees off at ground level | No trees cut/removed for the Project. Pruning is done in few locations. | ..... |
| 10. | Excavated earth to be stored and reused for back filling | Not much debris is generated for this project activity. | ..... |
| 11. | Fuels and other hazardous materials to be stored above high flood level | Compliance found. | ..... |
| 12. | Construction activities only undertaken during day time and local communities informed of the construction schedule | Construction is done during daytime. | ..... |
| 13. | Construction workforce facilities to include proper sanitation, water supply and waste disposal facilities | Local workforce was employed in majority areas. | ..... |
| 14. | Use existing roads wherever possible. Existing irrigation facilities are to be maintained. Protect/preserve top soil and reinstate after construction completed. Repair/reinstate damaged bunds etc after construction. | Compliance found. Not much debris generated in this project activity. | ..... |
| 15. | Need for access tracks minimized, use of existing roads. Limit site clearing to work area. Regeneration of vegetation to stabilize work areas on completion. Avoidance of excavation in wet season. Water courses protected from siltation through use of bunds and sediment ponds. | Existing roads have been used for this project activity. | ..... |
| 16. | Careful construction practices. As much as possible existing access roads will be used. Productive land to be reinstated after construction. | Existing roads have been used. No soil excavation required. No complaints received. | ..... |
| 17. | Injury and sickness of workers and members of public. Contractor to implement a health and safety plan. Contractor to arrange for health and safety sessions. | Workers expressed satisfaction with facilities provided to them. Health and safety sessions however, have not been conducted. | ..... |
| 18. | Training to the DISCOM Environmental monitoring personnel. | Yet to be conducted | To be conducted |
| 19. | Effective environmental Monitoring and reporting system using checklist of all contractual environmental requirements. | EMP not made part of the bidding document up to June 2010. | EMP has been made part of the contractor's bid by issuing a separate letter dated 02.11.10. |

3.0. Environmental Monitoring System of DISCOM-E

| No. | Environmental Monitoring Tasks | Implementation Responsibility | Status of Compliance |
|-----|---|--|---|
| 01. | Construction Phase | | |
| | Regular monitoring and reporting of contractor's compliance with contractual environmental mitigation measures. | EA through project management office and implementation units. | EMP not made part of the bidding document up to June 2010. It has been made part of the bid by issuing as separate letter dated 02.11.10. |

4.0. Monitoring of Environmental Receptors/ Attributes

The chances of environmental pollution caused by the sub-project activities are very low. Major activities under the project are carried out in agricultural land. No sensitive establishment or residential building is located near to the site. The sub-project activities have not caused any air or noise pollution to the people of the locality. So far, no complaints are received against the site selection, or damages or nuisance caused due to the construction.

5.0. Any Other Environmental Aspects, Impacts Observed during Implementation which were not Covered Earlier

No unanticipated environmental impacts were observed during the field visits.

6.0. Details of Grievance Redress Committee and Complaints Received from Public and Actions taken thereof to Resolve

In accordance of provisions of loan agreement covenant of ADB projects, a GRC has been constituted on 2.6.2010 (no. DISCOM/EZ/ADB/3829). Seven members are functioning under the GRC. No grievances have been reported till date.

7.0. Follow-up Actions and Conclusion

The monitoring report confirms that the route alignment and the construction activities of the subproject of Loan 2324 of DISCOM-E have so far caused no serious negative environmental impacts. However, Institutional arrangements as prescribed in the EARF and Loan Covenants needs to be strictly followed for better monitoring of implementation of Environment Management Plan.

Annexure3. Photographs



