



# Environmental Monitoring Report

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Project Number: 47100-004  
August 2015

Period: January 2015 – June 2015

## IND: Madhya Pradesh Power Transmission and Distribution System Improvement Project

Submitted by

Madhya Pradesh Poorv Kshetra Vidyut Vitaran Co. Ltd. (DISCOM-E), Jabalpur

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**Asian Development Bank**

GM/JB  
21/8/15

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No.DISCOM/EZ/ADB/ 1188

Jabalpur, dated: 11/8/15

To

Ms. M. Teresa Kho, Country Director,  
 India Resident Mission,  
 Asian Development Bank,  
 4 San Martin Marg.  
 Chanakyapuri, New Delhi- 110 021.



Sub: Loan No. 3066:IND under Asian Development Bank Project– IND : Madhya Pradesh Power Transmission and Distribution System Improvement Project – Submission of Half Yearly Environmental Monitoring Report.

Dear Sir,

As per the requirement of Loan Agreement, please find enclosed herewith the Half Yearly Environmental Monitoring Report for the period 01.01.2015 to 30.06.2015 in respect of Loan No. 3066-IND.

Thanking you,

Encl: As above (in 2 copies).

Yours faithfully,

  
 DIRECTOR(TECHNICAL)  
 MPPKVVCL, JABALPUR

Copy to:

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**MADHYA PRADESH POORV KSHETRA VIDYUT  
VITARAN COMPANY LIMITED (DISCOM-E)**  
(A Govt. of Madhya Pradesh Undertaking)

**ENVIRONMENTAL MONITORING REPORT**



**वाष्कोस लिमिटेड**  
**WAPCOS LIMITED**

(भारत सरकार का उपक्रम - जल संसाधन, नदी विकास और गंगा संरक्षण मंत्रालय)  
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# ENVIRONMENTAL MONITORING REPORT

Loan Number : IND 3066  
Reporting period : January 2015 – June 2015  
Submission Date : 31<sup>st</sup> July 2015

## FUNDING AGENCY



**ADB** Asian Development Bank  
FIGHTING POVERTY IN ASIA AND THE PACIFIC

## IMPLEMENTING AGENCY



**MADHYA PRADESH POORV KSHETRA VIDYUT VITARAN  
COMPANY LIMITED (DISCOM-E)**  
(A Govt. of Madhya Pradesh Undertaking)



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## **ABBREVIATIONS:**

ADB	Asian Development Bank
AP	Affected People
CFC	ChloroFluro Carbon
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
ESMU	Environmental Social Management Unit
GoMP	Government of MadhyaPradesh
GRC	Grievance Redressal Committee
HVDS	High Voltage Distribution Voltage
IEE	Initial Environmental Examination
LVDS	Low Voltage Distribution System
MPPCB	Madhya Pradesh Pollution Control Board
MPPKVCL	Madhya Pradesh PoorvKshetraVidyutVitaran Company Limited
PCB	Polychlorinated biphenyl
PPE	Personal Protective Equipment
SIEE	Summary Initial Environmental Examination
SOP	Standard Operating Practices

## 1. Introduction.

The distribution component of MP's investment program from 2012 to 2017 is predicated on building sufficient capacity for evacuation of power from existing and planned power stations and substations, and delivering power reliability and efficiency to consumers. ADB financed part of the distribution investment program from 2012 through 2017. The impact of the distribution component will be more pronounced and apparent from the perspective of consumers. Improvements in voltage profiles will be evident through better lighting and fewer equipment failures. Supply will be available more consistently and momentary outages will be significantly reduced. The distribution component will also directly impact both technical and non-technical losses and eventually sector profitability and financial sustainability.

All selected subprojects have been subject to a rigorous and strict scrutiny process. These subprojects have been examined by DISCOM-E for their technical, economic and financial feasibility; then by the Madhya Pradesh Electricity Regulatory Commission (MPERC) and the Ministry of Power of the Government of India. ADB-funded project preparatory technical assistance (PPTA) consultants also reviewed all aspects of the proposed subprojects. ADB's loan processing missions also visited sites, reviewed all available reports, and undertook a comprehensive due diligence assessment including safeguard aspects of the subprojects. To be eligible for inclusion in the next set, the subprojects proposed shall meet the criteria.

The investments to be supported by ADB is for (i) improvement in quality and reliability of power; (ii) remove transmission bottlenecks; (iii) facilitate in-state and inter-regional power transfers; (iv) facilitate a reduction in overall system losses; (v) improve energy efficiency, expand renewable energy capacity, and capitalize related carbon market opportunities; and (vi) improve utility operational and financial performance. A part of the fund is being utilized for the up-gradation and improvement of the distribution networks coming under the jurisdiction of Madhya Pradesh PoorvKshetraVidyutVitaran Company Limited (DISCOM-E), Jabalpur. DISCOM-E is implementing sub-projects under Loan agreement Nos. 3066. The implementation of sub-projects under Loan Agreement 3066 is reviewed and presented in this report. The details of sub-projects being implemented under Lot I, II and III under Loan 3066 are presented in Table 1.1.

**Table 1.1: Projects Undertaken by DISCOM-E under Loan and their Status:**

Sl. No.	Project Name	Progress of Implementation
1	Supply of materials, Survey, Installation, Testing and Commissioning of 11KV Line, 33 KV Line and 33/11 KV New Sub-Station under Jabalpur, Sagar and Rewa regions of MPPKVVCL.	<ol style="list-style-type: none"><li>1. Survey Works Completed.</li><li>2. Erection works around 15% Completed.</li><li>3. Out of 26 Sub-Station 1 No's is Completed in Rewa District.</li></ol>

## 2. Project Scope of Work.

Erection of new 33 KV line using Dog conductor for evacuation of power from 132 KV/220/400KV EHV sub-station to designated 33/11 KV sub-station and construction of additional 33 KV bay at 33/11 KV S/s. Initial three Km of 33 KV double circuit single string (DCSS) line emanating from 132/220/400 KV EHV S/s to be erected on H-beam. Erection of 33 KV line for new 33/11 KV S/s and erection of 11 KV lines for evacuation of power from newly constructed 33/11 KV S/s. Construction of new 33/11 KV S/s as per approved layout with construction of control room and other civil works.

Project Progress under Loan 3066 IND upto the 30.06.2015											
Lot	Name of Circle	33KV Line (Ckt Km.)				11KV Line on PCC pole (Ckt Km.)		New 33/11KV S/s No.			
		H-Beam		PCC Pole				3.15 MVA		5MVA	
		Scope	Achieved	Scope	Achieved	Scope	Achieved	Scope	Achieved	Scope	Achieved
Lot-I	Chhindwara	30	8.8	133	54	32	0	0	0	5	0
	JBP CC	24	0	26	0	0	0	0	0	0	0
	JBP O&M	54	15.5	114	44	5	0	0	0	1	0
	Katni	9	9	41	31	0	0	0	0	0	0
	NSP	51	0	102	0	25	0	0	0	4	0
	Seoni	24	10.6	86	28.9	37	1.5	3	0	3	0
	Total	192	43.9	502	157.9	99	1.5	3	0	13	0
Lot-II	Chhatarpur	12	0	45	0	14	3.5	0	0	2	0
	Damoh	12	0	13	0	0	0	0	0	0	0
	Sagar	12	0	14	0	5	1.5	0	0	1	0
	Tikamgarh	15	0	34	10.8	0	0	0	0	0	0
	Total	51	0	106	10.8	19	5	0	0	3	0
Lot-III	Shahdol	12	2.8	126	0	18	0	1	0	2	0
	Sidhi	33	0	69	0	0	0	0	0	0	0
	Rewa	48	0.4	130	2.27	16	1.3	0	0	3	1
	Satna	27	5.1	145	20.3	41	0	0	0	5	0
	Total	120	8.3	470	22.57	75	1.3	1	0	10	1
Grand Total		363	52.2	1078	191.27	193	7.8	4	0	26	1

The project works includes laying of New 33 KV Line 363 Ckt.Km( H –Beam) and 1078 Ckt. Km (PCC Pole) and New 11 KV line on PCC pole 193 Ckt. Km and New 33/11 KV sub-station 3.15 MVA 4 No. and 5 MVA 26 No. in the area of Jabalpur, Sagar and Rewa Regions of MPPKVCL.



# Madhya Pradesh (District Map)



Fig.1 Map Showing the Project area

### **3. Scope of Work.**

As a part of ESMU the appointed Environmental Agency, has reviewed the monitoring of the implementation of Environmental Management/ Safeguard and Monitoring Plans (EMP) in the execution of the works carried out under the sub project. The objective is to assess the Environmental Performance of the sub project with a view to improve and mainstream the necessary Environmental Compliances. The Environmental Monitoring Scope of work includes the assessment of the compliance with statutory Environmental regulations, assessment of the adequacy of implementation of loan covenants, EMP implementation, implementation of ADB safeguards and EARF implementation. The Environmental Monitoring also recommends corrective action plan/remedial measures for impacts implications, if any.

### **4. Why Need of Environmental Monitoring.**

Projects financed by ADB are normally designed at the feasibility level when submitted for loan approval by its board of directors. This means that the technical, economic, financial, environmental and social viability of the proposed project has been confirmed. The fact that planning is at the feasibility level results in some uncertainties about the environmental impacts at the time of board consideration. To strengthen its environmental loan covenants and implementation review an environmental monitoring planning is essentially to be done.

### **5. Approach and Methodology.**

The report has reviewed and monitored the necessary Environmental compliances with respect to (i) Environmental safeguards (ii) Loan covenants and (iii) Implementation of Environmental Management and Monitoring Plans of the ADB approved IEE reports for all subprojects. The report also referred the Environmental covenants, Initial Environmental Examination report approved by the ADB, Environmental Monitoring Reports and Aid –Memoires prepared by ADB. The approach and methodology includes the Collection of relevant documents/reports included Initial Environmental Examination report approved by the ADB, Environmental Monitoring Reports and Aid –Memoires prepared by ADB etc. On the basis of due diligence review conducted to strengthened and streamlined the agreed Environmental compliances major decisions to address the shortfalls identified and bridging the gaps have already been taken and reported in the previous monitoring report i.e. constitution of ESMU & GRC, regular conduction of ESMU meetings etc. Site visits were carried out for the Environmental monitoring of the sub projects. Checklists were prepared to monitor the Environmental safeguards as per agreed environmental monitoring plans. The shortcomings observed during the field visits have been

communicated with the Corrective Action Plan for remedial measures. The same have already been initiated by the MPPKVVCL and the concerned contractors.

Madhya Pradesh Poorv Kshetra Vidyut Vitaran Company Limited (DISCOM-E), Jabalpur. DISCOM-E is implementing sub- projects under 3 regional under Loan agreement Nos. 3066. For Environmental Monitoring Report the separate Monitoring agency WAPCOS Ltd. has been placed to look after the environmental changes by ADB Projects if the implementation of projects by Executing Agencies is following the ADB's Environmental Policy. WAPCOS Ltd. has followed the various steps to prepare the Environmental Reports:

- (i) Collection of required documents i.e. ADB loan agreement. IEE Guidelines, EARF guidelines, ADB's Environmental Policy, Tender document of Contract award of Executing Agency, Environmental Monitoring Plans by MPPKVVCL Jabalpur.
- (ii) Study of the tender documents and all the ADB's environmental policy for proper monitoring the execution work for environmental.
- (iii) Prepare a check list for monitor the Executing Agency works as per the ADB Norms as per the format given in below tables for each individual project.
- (iv) Meetings with senior officials of MPPKVVCL for the execution of work Environmental Plan and Policy.
- (v) Meeting with the site official of MPPKVVCL and Executing Agency for their environmental Plans and the execution procedure.
- (vi) Visiting the sites for monitoring the Project area for the Environmental norms and fill up the check list accordingly.
- (vii) Meeting with the consumers and consumer survey has been done for any environmental issues.

The major environmental issues likely to be occurred during the implementation of the project are:-

- Air pollution due to release of chemicals and gases from equipments,
- Encroachment into ecologically sensitive area,
- Loss of agriculture,
- Noise and vibration during construction and movement of vehicles,
- Increase in air borne dust,
- Trimming and cutting of trees,
- Pollution from scrap transformers, batteries, spillage of fuel and

- Transformer oil, contamination from disposal of wastes from labour camps, etc.

The EMP prepared for the project was made part of the contract document and the contractor is entrusted with regular monitoring and reporting of implementation of EMP. The Environment and Social Cell created on 27.10.2014 in DISCOM-E has taken necessary action to strengthen the monitoring activities. As the civil construction works under the project are very low, the environmental pollution warranting monitoring of ambient air quality, surface water quality and noise level were not experienced. Environmental quality monitoring will be conducted only at places where public complaint arises. Complaints from the affected person were identified as the performance indicator. Environmental quality monitoring was carried out, in order to streamline the monitoring system. The grievance redressal committee has already been constituted with stakeholder's participation.

Contractor is made responsible for handling public complaints regarding environmental/social related matters. All public complaints are entered into the Complaints Register maintained at the site office of the contractor. The contractor will promptly investigate and review environmental complaints and adopt appropriate corrective actions to arrest or mitigate the cause of the complaints. The register of all complaints is to be transferred to the concerned Project Manager of DISCOM within 48 hrs of their receipt, with the action taken by the contractor on the complaints. All the complaints received are to be placed before the grievance redressal committee and the decision of the committee will be implemented. The complaint register shall be placed at a convenient place, easily accessible by the public.

#### **6. Compliance status with National /State /Local statutory environmental requirements.**

The loan agreement of the project requires the Executing Agency (EA) has to implement the project and operate and maintain the project facilities in compliance with the Initial Environmental Examination (IEE), Environment Assessment and Review Framework (EARF), ADB's Safeguard Policy (2009), and Environmental Regulations of the Country applicable to the project. The IEE prepared for the Tranche based on the EARF approved for the project had identified the environmental regulatory requirements of the project, which is summarized and presented in Table 5.1. The compliance status is presented in column 3 of Table 6.1.

**Table 6.1: Environmental Regulatory Requirements of the Projects and Present Status**

Sl. No.	Environmental Regulatory	RequirementsStatus of Compliance
1.	Environmental clearance from MoEF under the Environmental Impact Assessment Notification (EIA-2006)	Distribution projects are exempted from the list of projects that require environmental impact assessment (EIA) and environmental clearances from MoEF.
2.	Scrap batteries are to be disposed off as per the Batteries (Management and Handling Rules- 2010)	Scraped equipments are disposed through Metal Scrap Trading Corporation (MSTC), a Government of India Undertaking. Scrap batteries are not generated from the present sub-projects activities. Obtained authorization from MPPCB under Hazardous Waste (Management and Handling) Rules for the disposal of scrap batteries by sale to authorized persons.
3.	Used / burned transformer oils to be disposed of in accordance with the Hazardous Waste (Management and Handling Rules -2010)	Burnt/used oil is being disposed off through M/s. Divya Refineries Pvt. Ltd, Satna having valid authorization under Hazardous Waste Rules 1989 (3074/RO/MPPCB/HSMD/E/07 dated 29 November 2007) from MPPCB and Registration Certificate- cum-Pass Book for Re-refining/recycling of hazardous wastes from CPCB. Obtained authorization from MPPCB under Hazardous Waste (Management and Handling) Rules for the disposal of burnt/used oil through sale to authorized persons.
4.	Avoid equipments using PCBs and CFCs (Ozone Depleting Substances Rules -2000)	The equipments to be purchased under the project do not use PCB or CFC
5.	Clearance from MoEF/ Forest Department if the Line Passes through the Forest Area (Forest Act 1980)	As per the survey Line will pass through the Forest Area and Prior commencement of works the Approval will be taken from the Forest department. (The clause has been added in the Contract Agreement of the Contractor)

The used oil/burned oil generated from the discarded equipment as well as from the existing facilities is being reprocessed through authorized recycler and reused to the extent possible. The scrap materials from the existing sub- stations are being disposed through MSTC, a Government of India Undertaking and having ISO certification. Scrap materials generated from the present sub- project activities do not contain scrap batteries. Madhya Pradesh Pollution Control Board (MPPCB) has issued authorization under the Hazardous Waste (Management and Handling) Rules for the disposal of hazardous materials including scrap batteries through sale to authorized persons. All the works proposed under this Tranche are being carried out in the existing facilities and located outside national park and wildlife sanctuary. Hence the sub-projects proposed under this Tranche do not require any clearance from the Central or State Government Agencies.



## 7. Environmental covenants as in the Loan Agreement and their Compliance status.

DISCOM-E is implementing subproject under Loan agreement no. 3066 from 17<sup>th</sup> February 2014. According to the agreement, the EA should ensure that sub-projects are not located within national park and wildlife sanctuaries and monuments of cultural and historical importance should be avoided. The subprojects were designed strictly in complying with the above conditions. The sub-projects sites are not passing through any wildlife sanctuary or national park. No sensitive area or monuments of cultural and historical importance is affected by the project activities. The projects are being planned, designed, and implemented in complying with the other conditions of the loan agreement. The environmental compliance requirements as per the Loan Agreement and its compliance status is summarized and presented in Table 7.1.

**Table 7.1: Environmental Compliance Requirements as per Agreement and Present Status:**

S. No.	Loan Agreement Reference	Environmental Compliance Requirements	Compliance Status
1.	Schedule 5, item 30 of Loan Agreement	Establish a grievance redressal committee with representation from all stakeholders for the project to address grievances of APs concerning resettlement, environment and other social issues	Grievance redressal committee has been constituted with the stakeholders.
2.	Schedule 5, item 32 of Loan Agreement	Implement the project strictly in compliance with IEE, EARF, ADB's Policy and environmental regulations of the country	Regular meetings were arranged to take care of the compliance with IEE, EARF, ADB's Policy and Environmental Regulation of the country.
3.	Schedule 5, item 33 of Loan Agreement	Approved IEE and EMP are to be followed during the design, construction and operation phases of the project. EMP should form part of bidding document	As per Special conditions of contract Clause 9.8 and 9.9 were added to the General Conditions of Contract detailed in section 7 of the bid document EMP has been made part of bidding document.
4.	Schedule 5, item 34 of Loan Agreement	Monitor, audit and report twice a year on the implementation of EMP	The contractor was made responsible for implementation, monitoring and reporting of the EMP by adding clause 9.8 and 9.9 to the GCC
5.	Schedule 5, item 35 of Loan Agreement	EA shall ensure that the subprojects are not located within national parks and wildlife sanctuaries, unless prior environmental clearance is obtained from relevant government agencies; monuments of cultural	Detailed surveys were carried out before finalizing the sub-project locations and ensured that no encroachment into national parks and wildlife sanctuaries and no monuments of cultural or historical

		importance are avoided; and EMP with adequate budget is developed and implemented for each subproject.	importance are affected. EMP with adequate budget was developed during the project formulation stage and the approved EMP is made part of the contract document and has also been implemented.
6.	Schedule 5, item 39 of Loan Agreement	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 environmental and social requirements including EMP and RF	Environment and Social Cell has been created. The Cell will be entrusted to take action to add a brief summary of compliance with environment and social requirements in the quarterly reports in future.

The sub-projects were identified and project prepared in complying with the EARF. Initial Environmental Examination (IEE) was carried out for the sub- projects and an EMP developed prior to the signing of Loan Agreement. The EMP approved by ADB was included in the bid document and the responsibility of EMP implementation and monitoring of EMP implementation was entrusted with the contractor of the project. The implementation of the EMP by the contractor will be monitored by the field officers of the Project Implementation Unit (PIU). Environment and Social Cell was created at the Head Quarters of DISCOM-E on 10 November 2009 to overview and audit the implementation of EMP by the contractor and to co-ordinate activities related to the EMP implementation and monitoring at various levels. The Environment and Social Cell started functioning at the Head Office from November 2009 onwards. A monitoring system was developed and the implementation of EMP monitored on regular basis. Documentation of monitoring activities at various levels will be ensured during implementation in future.

The project works include erection of New 33/11 KV S/s, 33 KV and 11 KV line. Major activities being implemented are renovation and up gradation of distribution and transmission system and thereby enhancing the capacity and efficiency of the distribution and transmission networks in the project area. No complaints about environmental pollution or nuisance caused by the sub- project activities were received so far. Hence the grievance redressal committee constituted had not received any representation from the public or stack holders of the project. Complaint register has been maintained at each local project office for registering the complaints.

As per Schedule 5, item 32 of the Loan Agreement, all future sub-projects are to be planned and implemented in accordance with the EARF approved for the project. The initial examination was carried for the project and the EMP prepared for the project was made part of the contact. The EARF also requires EA to take certain measures for the efficient monitoring and evaluation of compliance with the

environmental requirements of the project. The detailed alignment survey reports were scrutinized by the project staff of DISCOM-E and ensured that the sub-project activities will not have any impact on the environment. According to EARF, the EA has to hire an independent monitoring agency with ADB concurrence for undertaking external monitoring of the all projects funded by the MFF.

**8. Compliance status with environmental management and monitoring plans as stipulated in the environmental documentation as agreed with ADB.**

To ensure the effective implementation of EMP, special condition was included in the bid document, making the contractor responsible for implementation, monitoring and reporting the progress of implementation of the EMP. According these conditions, the contractor will be responsible for:

- Obtaining statutory clearances required for the project;
- Establishing an operational system for managing environmental impacts;
- Carrying out all the monitoring and mitigation measures set forth in the EMP;
- Allocate the budget required to ensure that such measures are carried out;
- Submit to the employer quarterly reports on the carrying out of such measures; and
- Recording the conditions of roads, agricultural land and other infrastructure prior to transport of materials and construction commencement and upon completion of construction, fully reinstate roads, agricultural land and other infrastructure to at least their pre-project condition.

The project works include erection of New 33/11 KV S/s, 33 KV and 11 KV line. Major activities being implemented are renovation and up gradation of distribution and transmission system and thereby enhancing the capacity and efficiency of the distribution and transmission networks in the project area. Main activities are erection of new Sub-stations and supply of transformers and other equipments. All the civil constructions works are being carried out under the supervision of environmental expert appointed by the contractor and Nodal officer (ADB) appointed by MPPKVVCL. During construction works all environmental parameters are checked and found satisfactory. Therefore not much environmental issues are created during the implementation of the project. The contractors entrusted with the implementation of the project are adopting the best available technologies and construction practices and thereby complying with most of the mitigation measures specified in the EMP. Construction activities are planned such that to avoid damages to agricultural crops. The mitigation measures suggested in the EMP and its status of implementation are presented in Table 8.1.

**Table 8.1: Environment Management Plan and the Status of Implementation:**

Sl. No	Mitigation Measures	Implementation Status	Measures proposed for Improvement
1.	PCBs not used in transformers or other project facilities or equipments Processes, equipment and systems not to use chlorofluorocarbons (CFCs), including halogen Use of PCBs and CFCs in the existing systems should be phased out and to be disposed of in a manner consistent with the requirements of the government	Transformers or other project facilities or equipments do not use PCBs or CFCs. Phased out materials are disposed off through approved agencies as per the authorization issued by MPPCB under the hazardous Wastes Rules.	Internationally accepted specifications have been adopted for the equipments and materials in tenders.
2.	Careful route selection to avoid existing settlements	Carefully selected the Route. No existing Settlements are disturbed	-----
3.	Involuntary resettlement or land acquisition	Government Land has been allotted for New Sub-Station therefore no resettlement plan is required.	-----
4.	Avoid encroachment into precious ecological areas by careful site and alignment selection	No ecologically sensitive area involved. No action required	-----
5.	Avoid encroachment into forestland.	33 KV line route has been selected to avoid Forest Land. However in some places it can't be avoided and necessary permission has been applied from Forest Department.	-----
6.	Avoid encroachment into farmland	All works are in the supervision of Environmental Officer appointed by the Contractor. Network route selected without encroachment of Farm land.	-----
7.	Better design to ensure noise will not be a nuisance	The transformers and equipments required for the project will not create noise. No action required.	-----
8.	Appropriate placement of poles to avoid drainage/channel interference	The route has been selected to avoid the Drainage/ Channel Interface.	-----
9.	Equipment specification with respect to potential pollutants	Equipments purchased under the project do not contain PCB or CFC.	Internationally accepted specifications has been specified for the equipments and materials to be

			purchased in the project
10.	Construction technique and machinery selection to minimize noise disturbance	No heavy equipments used in the construction Best and modern construction practices followed by the contractor No work carried out during night hours.	-----
11.	Construction activities to be scheduled to avoid disturbance to farming activity	Works were carried out after harvesting to avoid any damage to farming activities Contractor is made responsible for ensuring avoidance of disturbance to farming activities. No complaint from farmers regarding damage of farming activities	Complaint monitoring system has been developed to improve the complaint handling mechanism.
12.	Construction equipment to be well maintained and to avoid noise, vibration and operator safety.	EMP included in the bid document and the contractor uses equipments and vehicles complying with environmental standard No heavy equipment/vehicle is employed in the construction works. Project works are being carried out only during day time and contractor has to obtain prior permission from the Project Managers for working in night time, if urgency arises.	-----
13.	Existing roads and tracks used for construction and maintenance access to the line	As the entire Project works are to be done in existing Roads hence no action required.	-----
14.	Marking of vegetation to be removed prior to site clearance and strict control on clearance activities to ensure minimal clearances.	Survey has been done in accordance of the Clearance. No action required.	-----
15.	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.	Survey has been done in accordance of the Clearance. No action required.	Monitoring and record keeping improved.
16.	Construction workers prohibited from harvesting wood in the project area	Included on the bid document No labour camps established for the project Contractor generally employs local labours	-----
17.	Dispose scrap materials such as batteries, transformers, conductors, capacitors etc in environmentally sound manner	Obtained authorization from MPPCB for the disposal of hazardous materials and scrap batteries. Scraped equipments	-----



		are disposed through Metal Scrap Trading Corporation (MSTC) Used/burnt oil are disposed off through agency having valid authorization from MPSPCB batteries not used in this projects.	
18.	Tree clearances for easement establishment to only involve cutting trees off at ground level	EMP included in the bid document. No trees cut/removed for the project	-----
19.	Excavated earth to be stored and reused for back filling	Adopt good construction practices Incorporated in contract document	-----
20.	Fuels and other hazardous materials to be stored above high flood level	No such equipments and materials are used in the project erection works hence no action required.	-----
21.	Noisy construction activities shall be carried out during day time	Project works are being carried out only during daytime and contractor has to obtain prior permission from the Project Managers for working in nighttime, if urgency arises.	-----
22.	Construction workforce facilities to include proper sanitation, water supply and waste disposal facilities	No workers camp established Local workers were employed as far as possible.	-----
23.	Existing irrigation facilities are to be maintained Use existing access roads for transportation of materials Protect/preserve top soil and reinstate after construction completed Repair/reinstate damaged bunds etc after construction	Only pole pit digging involved resulting very meager quantity of excavated earth.	-----
24.	Take measures to prevent erosion and /or silt run off 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 sediments ponds.	Adopted good construction practices Incorporated in contract document Only minor civil construction works involved.	-----
25.	Careful construction practices to avoid loss to neighboring properties Productive land to be reinstated after construction Compensation for loss of production	Incorporated in contract document and implemented through contractor No complaints received regarding loss of neighboring land uses.	-----
26.	Existing borrow sites will be used to source aggregates therefore no need to develop new sources for aggregates.	Incorporated in contract document and implemented through contractor Incorporated	-----

		in contract document and implemented through contractor No borrow site developed for the project	
27.	Ensure health and safety of workers	Incorporated in contract document and contractor is providing measures as per the existing laws. No complaint from workers received regarding the facilities provided	-----
28.	Training to the DISCOM environmental monitoring personnel	Time to time the persons involved in field were educated regarding environmental issues	Proper record of training maintained. A plan prepared for training the staff and workers
29.	Effective environmental monitoring system using checklist	Environmental Cell formed and monitoring the progress of implementation of EMP is being carried out	Check list prepared and maintained by the contractor and the DISCOM
30.	Creation of Environment and Social Cell at headed by Chief Officer of DISCOM for implementation and monitoring of EMP	Environmental and Social Cell created as per Order No.DISCOM/EZ/WS/ADB/662 3 dated 10-11-2009	Best and modern construction practices followed by the contractor No work carried out during night hours.

In order to further improve the monitoring and reporting of implementation of EMP, the newly created Environment and Social Cell closely monitoring the physical progress of implementation of EMP by the Contractor. An Officer each from the field offices is designated as Environmental Officer and he made responsible for monitoring and recording the progress in a systematic way. The Environment and Social Cell is over viewing and co-ordinate the monitoring activities. The contractor has designated an Officer as Environment Officer and is responsible for ensuring the implementation of EMP. A check list system has been developed for improving the efficiency of the monitoring and followed at all levels. Proper training has been given to the staff of contractors and Officers of DISCOM in implementation and monitoring of EMP. A grievance redressal register has been maintained at contractor level so as to have a proper monitoring of complaints received if any.

**9. Monitoring of environmental receptors/ attributes (e.g. ambient air, surface water, ground water, land, ecological aspects, noise, hazardous/toxic wastes, etc.).**

As the civil construction works under the project are very meager, the Environmental pollution warranting monitoring of ambient air quality, surface water quality and noise level were not experienced.

Environmental quality monitoring will be conducted only at places where public complaint arises. Complaints from the affected person were identified as the performance indicator. No complaints were received so far against the alignment selection and impact due to the construction activities under the project. So no ambient Environmental air, water quality monitoring was carried out.

Effective Environmental Monitoring System under the project has already been placed. All the contractors are responsible to strictly implement the EMP along with the project and Contractor's designated Environmental/safety Officer is responsible for checklist based monthly reporting and monitoring of EMP implementation to PIU. All the circle SEs(O&M) have been designated/ authorized to work as an Environmental officers under the ADB Projects and the designated officer is responsible for EMP's Environmental compliances, Monitoring and Reporting. And the committee consisted of Stake holders and Officials meeting regularly however no grievance and complaints has been received.

**10. Any other environmental aspects, impacts observed during implementation which was not covered earlier.**

The contractor is taking care to avoid any damage to the agriculture. In order to meet the time schedule, the contractor may carry out the works prior to the harvesting leading to crop damage. The Environment and Social Cell will be more vigil and ensure that the work carried out only after harvesting. The functioning of the Environment and Social Cell has improved the monitoring system and ensure effective implementation of EMP.


**11. Details of Grievance Redressal Committee and complaints received from public and actions taken thereof to resolve.**

As per the Loan Agreement and Para G of the EARF, a grievance redressal committee with representation from all stakeholders for the project to address grievances of APs concerning resettlement, environment and other social issues has been created. A committee has been made at each circle level with representation from local authorities, affected parties, and well-reputed persons from health, education sectors. This committee will address the project related grievances of the affected parties and will provide them a public forum to raise their concern or objections. A senior official from DISCOM at circle level will represent EA. The grievance redressal committee at each circle level is made to ensure easy access to communities and affected parties.


**12. Follow-up actions and conclusions.**


The project started implementation during April 2014 without much background preparation for implementation of EMP. Hence more attention was given for the identification of project location and implementation of the project in a time bound manner. The EMP prepared for the project was made part of the bid document and the contractor was made responsible for the implementation of EMP. The bid conditions require the contractor to adopt best construction practices which include most of the mitigation measures suggested in the EMP. Environment and Social Cell was constituted for closely monitor the implementation of EMP by the contractor. The project activities will be carried out without affecting the agricultural activities and crop damage. The bid document requires the contractor to pay compensation in case of any crop damage. A grievance redressal committee will be constituted with due representation to the people residing near to the project site. Complaints, if any, received will be recorded and the complaint together with the corrective action taken by the contractor will be placed before the committee immediately. The contractor will implement the decision taken by the committee. Proper training on environmental issues during project implementation and EMP implementation will be organized for the staff and officers of the contractor and implementing agency. A checklist system will be developed and implemented for improving the monitoring and reporting of EMP implementation. The responsibility of each level of officers of the contractor and field offices will be fixed and implemented. The Implementing Agency, DISCOM-E, will give more attention towards the implementation of EMP and project will be implemented in compliance with the environmental regulations of the country and environment covenant of Loan Agreements.

Signed by:

  
**Director (Technical)**  
**MPPKVCL, Jabalpur**  
**Executive Head of the Project**  
**Implementing Authority**

Monitoring agency:

  
**(Mridul Mohan Verma)**  
**Senior Engineer, WAPCOS Limited**



**Authorized signatory from**  
**Implementing Agency /Executing**  
**Agency:**

**Madhya Pradesh Poorv Kshetra Vidyut Vitaran**  
**Company Limited (DISCOM-E), Jabalpur**

### 9.1: Important Meetings for Environmental Monitoring Plan (EMP) Implementation:

S.N.	Date	Officials	Place	Particulars
1.	15.07.2015	<b>Corporate Office</b> CGM (ADB) DGM (ADB) <b>Field Office</b> SE (O&M) Field Office Nodal (Field Office)	Corporate Office & Field Offices	<ul style="list-style-type: none"> <li>Environmental Committee instructed the Contractor to take the Environmental Regulations and Safety Measures into account while doing Erection Works.</li> <li>A program for the assurance of the Public Awareness about the project is prepared and Monitored under the supervision of the DGM (ADB)</li> <li>Grievance Redressal Committee headed by SE (O&amp;M) and Contractor Project Manager are making responsible for the implementation of Environmental Regulations at the time of Erection.</li> </ul>
2.	27/10/2014	<b>Corporate Office</b> CGM (ADB) DGM (ADB) <b>Field Office</b> SE (O&M) Field Office Nodal (Field Office)	MPPKVVCL, Jabalpur	<ul style="list-style-type: none"> <li>A committee of Environmental and Social Management Unit (ESMU) has been established to review the Environmental and Social Safeguards under the project area.</li> </ul>
3.	30/8/2014	CGM(ADB) SE(W-ADB)	MPPKVVCL, Jabalpur	<ul style="list-style-type: none"> <li>An order has been passed for the establishment of environmental and social safe guards under the area covered under project financed by ADB.</li> </ul>
4.	15/9/2014 to 30/9/2014	SE(O&M)	MPPKVVCL, Satna, Sidhi, Chhatarpur, Damoh, Tikamgarh, SagarShahdol, Seoni, Katni, Narsinghpur, Rewa, Jabalpur, Chhindwara	<ul style="list-style-type: none"> <li>Contractor has been directed by the S.E to take care of Environmental monitoring plan and safety guards</li> <li>WAPCOS Limited has proposed a Complain register to enter the public grievance received.</li> <li>A Environmental monitoring plan has been provided by WAPCOS for successfully implementation of the EMP</li> <li>Consumer feedback has been taken during the site Inspection.</li> </ul>



## Appendix-1

## Environmental Management Monitoring Plan Reporting Format

S.No	Parameters		Remarks
1	EMP part of the Contract Document & is being Implemented by the contractor (YES/NO)		Yes
2	Environment & Social Safeguard Officers by Contractor (Nominated/Yet to be Nominated)		Nominated
3	Public consultations being carried out during Implementation by the contractor (Yes/No)		Public Consultations has been taken no complaints has been received so far
4	Grievance redressal	Register for public complaints (Yes/No)	Yes
5		No. of Complaints Received & Action taken (If Any)	No Complaints Received so far
6	Statutory clearances requirements if any	Forest land (Yes/No).	Yes, During survey forest land occurred and approval will be taken from Forest Department.
7		Railway Crossings (Yes/No).	Yes, During survey Railway land occurred and approval will be taken from Railway Department.
8	Site Specific Monitoring of Environmental parameters for ambient air quantity, water quantity, noise levels by the Contractor (Yes/No)		Yes
9	Usage of personal protective equipment (PPE) by the workers at sites (yes/No)		Yes
10	Overall status of EMP Implementation (Excellent/Satisfactory/Partially satisfactory/Below Satisfaction)		Satisfactory

## Appendix-2

## Environmental Parameters

S.N.	Environmental Parameters	Monitoring Result/Standards
1	Air Quality	The Environmental Parameters are needed not to be measure as this Project not

2	Water Quality	includes any major Civil works of MPPKVVCL Jabalpur related to Information Technology. No serious concern with the Environment. Scraped equipments are disposed through Metal Scrap Trading Corporation (MSTC), A Government of India Undertaking. Scrap batteries are not generated from the present sub-projects activities. Obtained authorization from MPPCB under Hazardous Waste (Management and Handling) Rules for the disposal of scrap batteries by sale to authorized persons.
3	Noise Levels	
4	Solid waste Management	

### Appendix-3

#### Construction Site Specific Format for Public Consultation

S.N.	ISSUES	Participants' Opinion, Comments and Suggestions
1	General perception about the project and the awareness about the proposed project	Project is to Improve the Existing Distribution & Transmission Network. Public is well aware about the Project. General Consultation has been taken by the Team of Environmental Agency
2	Support of local people for the proposed project	Yes
3	Any critical issue or concern by the local people regarding the project	NO ISSUE
4	Any criteria you would like to see considered during project design, construction and operation stage	NO ISSUE
5	Loss of residential/commercial structures, if any due to the project	NIL
6	Loss of community life like any Market places or community activities to be affected	NIL
7	Shortage of water for human consumption, irrigation and other downstream uses? How extensive are they?	NIL
8	Any impacts on fish spawning/breeding and nursery grounds or fish migration routes? Types of fish impact in upstream or downstream? (In case of River to be Affected)	NIL
9	Any conflicts of water use rights and social impacts?	NIL
10	Damage of crops if any/Resettlement and Land Acquisition (if foreseen due to setting up of substation, distribution line especially on private land) Has there been land acquisition and compensation package.	NIL
11	Protected areas (national park, protected forest, religiously sensitive sites, historical or archaeological sites), if any	As per the Survey the Electrical Line will pass through the Forest Land. The Approval from the Forest Department will be taken prior the Commencement of the works
12	Type of compensation expected if any due to any kind of damage (cash or kind)	No
13	Perceived benefits from the project	Improvement in supply quality, Improvement in yielding, saving in loss of energy and ultimately benefit to company
14	Perceived losses from the project	NIL

15	Any other issues you may feel to share (Demand of power, whether they welcome the project, will there be cooperation from the local community during the implementation, security measures etc	The public Co-Operation is really good, As they are more concerned with the quality of power
16	Is this consultation useful? Comments	Yes, It gives the understanding of project and also the people get aware about the project
17	Will there be likely involvement of local people in the implementation of the project?	Full co-operation from the local people

	<b>M.P. POORV KSHETRA VIDYUT VITARAN CO.LTD.</b>
	<b>REGD. OFFICE - BLOCK No. 11 GROUND FLOOR, SHAKTI BHAWAN, RAMPUR, JABALPUR - 482 003 (M.P.)</b>
	(Telephone no. 0761-3666080 EXTN., 270-2399 270-2448 Fax no. 0761-3666080) Email: ceadb.jbo@gmail.com

NO.DISCOM/EZ/ADB/ 2312

Jabalpur, dated: 27/10/14

**ORDER**

As per the provisions of ADB Loan Agreement against Loan No.3066, the requirement of establishment of Environmental and Social Management Unit (ESMU) is mandatory to review the environmental and social safeguards under the area covered under project financed by ADB. In order to fulfil the above requirement, an Environmental and Social Management Unit (ESMU) in East Discom headed by Chief General Manager(ADB), MPPKVVCL, Jabalpur is hereby established consisting of the following officers.

**Corporate Office**

CGM(ADB)  
DGM(W-ADB)


**Field Office**

SE(O&M) Jabalpur  
SE(City) Jabalpur.  
SE(O&M) Katni  
SE(O&M) Seoni  
SE(O&M) Chhindwara  
SE(O&M) Narsinghpur.  
SE(O&M) Sagar

**Field Office**

SE(O&M) Damoh  
SE(O&M) Tikamgarh  
SE(O&M) Chhatarpur  
SE(O&M) Rewa  
SE(O&M) Satna  
SE(O&M) Sidhi  
SE(O&M) Shahdol.

The unit will look after the Environmental and Social Management in the areas where the ADB financed projects are going on in accordance with Environment Management Plan submitted to ADB.

  
CHIEF GENERAL MANAGER(ADB)

**Copy to:**

- 1) CE(JR/SR/RR), Jabalpur/Sagar/Rewa.
- 2) SE(City) Jabalpur/O&M Jabalpur/ Katni, Seoni/ Chhindwara/ Narsinghpur/Sagar/ Damoh/Tikamgarh/Chhatarpur/Rewa/Satna/Sidhi/Shahdol.
- 3) DGM(W-ADB), Corporate Office, MPPKVVCL, Jabalpur.
- 4) Ms. M. Teresa Kho, Country Director, India Resident Mission, Asian Development Bank, 4 San Martin Marg, Chanakyapuri, New Delhi  
Fax: 91-11-26870946 / 0955.
- 5) Mr. J. Banerjee, Project Officer Energy, India Resident Mission, Asian Development Bank, 4 San Martin Marg, Chanakyapuri HPO New Delhi (India)- 110 021

## APPENDIX

## CONSUMER LIST

During site visit the interaction has been done with the consumers regarding the environmental concerns and during the interaction with the consumers the consumers are having no issues regarding the environment. The consumers are asked if the construction work is affecting the social or environmental life. No complaints so far received during the interaction with the consumer. The list of consumers interacted is as hereunder:

Rewa:

S.No	Consumer Name	Father's Name	Meter No	Signature
1	Ram Kripal Sodhiya	Jetbani Sodhiya	312046	राम कृष्ण
2	Beva.Shyam Kali Patel	Balbhadra Patel	311164	रमेश
3	Indrabhan Sen	Ram Sajeevan sen	312059	रमेश
4	Rambhawan	Ranabdhari	312055	राम बख्श
5	Balmik Sen	Ram Sajeevan sen	311521	काली मुख
6	Raghubansh Kushwaha	Ram Sajeevan Kushwaha	310071	रघुवंश
7	Krishna Kumar. Verma	Shiv Balak Varma	310428	कृष्ण
8	Ramashray Kushwaha	Hanuman Kushwaha	310287	राम अश्व
9	Ram Phal Kushwaha	Ram deo Kushwaha	310063	राम फल
10	Moti Lal Kushwaha	Mohan Lal Kushwaha	310309	मोतीलाल कुशवाहा
11	Maharabhai Kushwaha	Thak Dhari Kushwaha	310068	
12	Ram Bahor Varma	Mithila Varma	310072	राम बाहर
13	Smt.Sunita Bunker	Raman Siya Bunker	310346	सुनीता
14	Mahabir Bunker	Lalla Bun kar	310250	महावीर बंकर
15	Budhheal Bunker	Ram Manohar Bunker	310319	बुद्धीलाल
16	Moti Lal Bunker	Ram Manohar Bunker	310251	मोतीलाल बंकर
17	Smt.Shiv wati Bunker	Sri Niwesh Bunker	310568	शिव वती
18	Shiv Pal Bunker	Katnar Bunker	310200	शिव
19	Ganesh Sen	Ram Lakhan sen	310198	गणेश सेन
20	Ramesh Sen	Ram Lakhan sen	310067	रमेश सेन



SATNA				
S No	Consumer Name	Meter No	Qty	Remarks
1	Bewa Paragapthia f/o - Jugga Paragapthi	52492		
2	Ram Sakar Patel f/o Sada shiv	53123		
3	Ram Upagar f/o - Kishori charan	53127		
4	Hari charan Kushwaha	04-91-0- 584915		
5	Gokul Ashimwar	04-91-5 -720173		
6	Ramdeen Sun f/o Gayden sun	53151		
7	Vishesh dahiya f/o Ram Gopal Munna kot	94-11-426676 <del>53356</del>		
8	f/o Ganga kot	53164		
9	Santosh Chakraborty f/o Chandra Chandra			
10	Ram N. Singh f/o Ram N. Singh			
11				

## Site Snaps



**TP Line Work completed Gadari villageat Rewa District**



**HT Line Work in Under Progress at Sirmor Jawa feeder Rewa District**



**HT Line work in progress at Pusor Village Jawa Feeder Rewa District**



**33/11 KV Bachhera Substation Construction Work in Progress at Rewa District**