



Environmental Monitoring Report

Project Number: 32298-033
November 2012

Period: January 2012- June 2012

IND: Madhya Pradesh Power Sector Investment Program (Tranche II)


Submitted by

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

This report has been submitted to ADB by the Madhya Pradesh Poorv Kshetra Vidyut Vitaran Company Limited (DISCOM-E), Jabalpur and is made publicly available in accordance with ADB's public communications policy (2011). It does not necessarily reflect the views of ADB.

Asian Development Bank

was 27/9 JB

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NO.DISCOM/EZ/ADB/ 866

Jabalpur, dated: 10.9.12

From
S.K.YADAV,
C.E-ADB



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

Sub: Loan No. 2324, 2347, 2520 & 2732 under Asian Development Bank Project–
IND : Madhya Pradesh Power Sector Investment Programme – 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 following period:-

Loan No.	Period
2324	01.01.2012 to 30.06.2012
2347	01.01.2012 to 30.06.2012
2520	01.01.2012 to 30.06.2012
2732	01.01.2012 to 30.06.2012

Thanking you,

Yours faithfully,

Encl: As above (in 2 copies each).


(S.K.YADAV)

Copy to:

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- 2 Shri. Girish Mahajan, Senior Environment Officer, INRM, Asian Development Bank, 4 San Martin Marg., Chanakyapuri, New Delhi- 110 021.



MADHYA PRADESH POORV KSHETRA VIDYUT VITARAN COMPANY LTD.

ENVIRONMENTAL MONITORING REPORT FOR ADB LOAN No.: IND 2324



WAPCOS Limited

(A Govt. of India Undertaking)

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**MADHYA PRADESH POWER
SECTOR INVESTMENT PROGRAM (TRANCHE II)**



Environmental Monitoring Report

Loan Number : IND 2324
Reporting period : January 2012 – June 2012

Monitoring Agency

वाष्कोस



WAPCOS

WAPCOS LTD.

(A Govt. of India Undertaking)

Implementing Agency



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

(A Govt. of Madhya Pradesh undertaking)

Date: 31/07/2012

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ABBREVIATIONS:

ADB	Asian Development Bank
AP	Affected People
CFC	Chloro Fluro Carbon
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
ESMU	Environmental Social Management Unit
GoMP	Government of Madhya Pradesh
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 Poorv Kshetra Vidyut Vitaran 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 2007 to 2012 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 2007 through 2012. 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 Poorv Kshetra Vidyut Vitaran Company Limited (DISCOM-E), Jabalpur. DISCOM-E is implementing sub-projects under 4 tranches under Loan agreement Nos. 2324, 2347, 2520 and 2732. The implementation of sub-projects under Loan Agreement 2324 is reviewed and presented in

this report. The details of sub-projects being implemented under Loan 2324 (Tranche II) 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 Commissioning and AMC of High Voltage Distribution System phase-I in 6 packages i.e. Gadarwara, Satna(O&M), Prithvipur, Patan, Damoh and Rewa.	92%
2.	Remote metering of LT consumers above 10 HP including Supply of Materials, Survey, Installation, Testing and Commissioning of Energy Meters, modems and other allied Equipments, including shifting of meters and replacement of service line and annual maintenance & operation for five years in the area under the jurisdiction of the Borrower's Company in 3 Circles i.e. Jabalpur(JR), Sagar(SR) and Rewa(RR)	100%
3.	Loss Reduction in 18 Non R-APDRP towns	Work has been awarded

2. Project Outcome.

HVDS Phase I: The project works includes conversion of total 4096 KM Line of Low tension line to High Tension Lines and installation of total 16013 child DTR and AMC of High Voltage Distribution System phase-I in 6 packages i.e. Gadarwara, Satna(O&M), Prithvipur, Patan, Damoh and Rewa. Out of these six packages Satna, Prithvipur, Damoh and Rewa works are already completed. The package wise work details upto the end of June 2012 are as hereunder:

Summary of HVDS Phase I Progress of Contract Packages under Loan 2324 IND (DISCOM-E)

Package	Provision		Prog W/c		No of Feeder		
	DTR	LT to HT	DTR	LT to HT	LOA	W/c	WUP
Gadarwara	4365	803	2436	448	18	10	2
Satna (O&M)	2666	607	2666	607	28	28	0
Prithvipur	2491	761	2491	761	21	21	0
Patan	3156	788	3149	779	39	38	1
Damoh	1647	620	1647	620	35	35	0
Rewa	1688	516	1688	516	25	25	0
Total	16013	4096	14077	3731	166	157	3

Remote Metering: Remote metering of LT consumers above 10 HP work includes installation of total 9798 no's of 10-40 Amp. Energy meters and 800 no's of CT Energy Meters along with modems and other allied Equipments, including shifting of meters and replacement of service line and annual maintenance & operation for five years in the area in 3 Circles i.e. Jabalpur(JR), Sagar(SR) and Rewa(RR). The project has already been completed on 07.01.2011 and the project works description are as hereunder:

Summary of Remote Metering Progress of Contract Packages under Loan 2324 IND (DISCOM-E)

Name of Circle	Name of Dn	Energy Meter			
		Provision		Prog W/c	
		10-40 A	CT Meter	10-40 A	CT Meter
Jabalpur(JR)	Jabalpur City	2119	400	2119	400
	Jabalpur (O&M)	423	0	423	0
	Narsinghpur	509	0	509	0
	Seoni	964	50	964	50
	Mandla	387	0	387	0
	Katni	878	0	878	0
	Chhindwara	632	0	632	0
	Jabalpur Region	5912	450	5912	450
Sagar (SR)	Sagar	888	160	888	160
	Tikamgarh	0	0	0	0
	Chhatarpur	0	0	0	0
	Damoh	368	0	368	0
	Sagar Region	1256	160	1256	160
Rewa (RR)	Satna	1044	190	1044	190
	Rewa	612	0	612	0
	Shahdol	686	0	686	0
	Sidhi	288	0	288	0
	Rewa Region	2630	190	2630	190
	Total	9798	800	9798	800

Loss Reduction in 18 Non RAPDRP Towns: This subproject includes the works to reduce the losses under 18 non RAPDRP Towns ie. Chaurai, Chand, Barkuhi, Bicchiya, Vijayraghoragh, Bahoriband, Hindoriya, Patera, Jabera, Majhouli, Panagar, Patan, Barela, Katangi, Lanji, Barghat, Chandiya, and Anuppur coming

under the 6 circles ie. Chindwara, Katni, Damoh, Jabalpur, Seoni and Shahdol. The works to be done under the loan are Augmentation of LT conductor, Replacement of LT conductor by AB cables, Replacement of consumer Service lines, replacement of stop/defective meters, shifting of meters at call bell location, replacement of electromechanical meter by Electronic meters, New 11 KV line and installation of DTR at Load centers. As per the provision the scope of work is:

Proposed works under Loss Reduction in Non RAPDRP 18 Towns under Loan 2324 IND (DISCOM-E)

Aug.of LT conductor (in K.m.)	Replacement of LT conductor by AB cable	Replacement of service line	Replacement of stop/defective meter	shifting of meter of call bell Location	Replacement of Electro mechanical meter by Electronic meter	New 11 kV line (In Ckt. Km.)	No. of DTR
80.5	312.83	11927.3	5931	44852	11042	62.5	83

The loan will partially fund distribution system investments to deliver power to consumers more reliability, more efficiently, and at a higher quality. Improvements in voltage profiles will be evident through better lighting and fewer equipment failures. Supply will be more consistent and momentary outages will be significantly reduced. Furthermore, technical and non-technical losses will be reduced. These outcomes will provide support to achieve sector profitability and financial sustainability. The implementation of above components has improved in system losses comes up to 32.78%, System reliability increases to 91% and collection efficiency increases by 96% in urban areas and 93.22% in rural areas.

3. Scope of Work:

As a part of ESMU the appointed Environmental Specialist, has reviewed and monitoring of the implementation of Environmental Management/ Safeguard and monitoring plans (EMP) in the execution of the works carried out under the sub projects. The objective is to assess the Environmental Performance of the sub projects 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 4 tranches under Loan agreement Nos. 2324, 2347, 2520 and 2732. 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 10.11.2009 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 Environment Policy (2002), 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	Requirements Status of Compliance
1.	Environmental clearance from MoEF under the Environmental Impact Assessment Notification 1994	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	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	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	The equipments to be purchased under the project do not use PCB or CFC

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 stipulated in the Loan Agreement and their Compliance status.

DISCOM-E is implementing subprojects under Tranche II (Loan agreement no. 2324) from April 2007. 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:

Sl. No.	Loan Agreement Reference	Environmental Compliance Requirements	Compliance Status
1.	Schedule 5, item 30	Establish a grievance redressal committee	Grievance redressal committee

	of Loan Agreement	with representation from all stakeholders for the project to address grievances of APs concerning resettlement, environment and other social issues	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	The 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 or historical importance are avoided; and EMP with adequate budget is developed and implemented for each subproject.	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 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	EA shall prepare quarterly progress reports	Environment and Social Cell has

	of Loan Agreement	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	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.
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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.

As majority of the works under the project is renovation and/or up gradation of the existing system, much environmental impacts are not experienced during the implementation of the sub-projects under this Tranche. 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 stock 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 contract. 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.

Major activities being implemented under this Tranche are renovation and up gradation of existing distribution system and thereby enhancing the capacity and efficiency of the distribution networks in the project area. Main activities are supply and erection of transformers and other equipments. Hence not much civil construction works are to be carried out. 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	Transformers or other project facilities or equipments do not use PCBs or CFCs. Phased out materials are disposed off through approved agencies	Internationally accepted specifications have been adopted for the equipments and materials in tenders.

	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	as per the authorization issued by MPPCB under the hazardous Wastes Rules.	
2.	Careful route selection to avoid existing settlements	Under this trench all the works are to be done on existing Network hence no new route selection to be done	
3.	Involuntary resettlement or land acquisition	Involuntary resettlement or land acquisition not required for this project. No action 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.	No forestland is involved en route the line. No action required.	
6.	Avoid encroachment into farmland	Under this trench all the works are to be done on existing Network hence no new route selection to be done	
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	In majority of the cases, the line alignment finalized along the existing line without affecting the natural drainage During detailed survey, consultations were made with local people.	
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	EMP included in the bid document. The contractor has not constructed any new access road for these project activities.	
14.	Marking of vegetation to be removed prior to site clearance and strict control on clearance activities to ensure minimal clearances.	Under this trench all the works are to be done on existing Network hence no new route selection to be done	
15.	Trees allowed growing up to a height within the ROW by maintaining adequate clearance	EMP included in the bid document. No trees cut/removed for the project. As existing LT lines are converted into HT	Monitoring and record keeping improved.

	between the top of tree and the regulator as per the regulations. Trees that can survive pruning should be pruned instead of clearing.	lines, the trimmings of branches of trees are to be required only as operation and maintenance activity.	
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 Only pole pit digging involved resulting very meager quantity of excavated earth	
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,	No workers camp established Local workers were employed as far as	

	water supply and waste disposal facilities	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/6623 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 2007 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:

Monitoring agency:



WAPCOS Limited (A Govt. Of India Undertaking), Jabalpur
(Madhya Pradesh), H.O. Gurgaon

Authorized signatory from Implementing
Agency /Executing Agency:

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

9.1: Environmental Meetings Reports

Meeting Details held at Madhya Pradesh Poorv Kshetra Vidyut Vitaran Company Limited, Shakti Bhawan Rampur Jabalpur (Madhya Pradesh)			
S.N.	Date	Official presented during the meeting	Minutes of Meeting
1	10.11.2009	CE (W&P)	<ol style="list-style-type: none"> 1. An order has been passed for the establishment of environmental and social safe guards under the area covered under project financed by ADB. 2. A committee consisting of CE (W&P), SE (W-ADB), EE (W-ADB) AE (W-ADB) was formed along with site offices SE to look after the environmental norms as per the loan agreement with ADB.
		SE(W-ADB)	
		EE(W-ADB)	
		AE (W-ADB)	
		ENERGY SPECIALIST ADB	
		SENIOR ENERGY SPECIALIST ADB	
2	12.10.11	CE(JR)	<ol style="list-style-type: none"> 1. Indian Environmental Norms were discussed and action has been taken to follow the same. 2. Contractors were asked to form an Environment committee to look after the project works to be done as per the Loan Agreement with the ADB
		SE(O&M)	
		PRESIDENT	
		BUSINESS HEAD	
3	10.11.11	CE(JR/SR/RR)	<ol style="list-style-type: none"> 1. CE ADB instructed the contractor to prepare the checklist to strictly follow the ADB environmental Norms.
		SE(O&M) /AMR	
		ED	
4	17.01.12	Chief Engineer (ADB)	<ol style="list-style-type: none"> 1. The Contractors working under HVDS –I works are instructed to put the Danger Board and Anti-climbing devices as per construction standards. 2. The Contractors were asked to provide the safety measures to labors while doing construction works.
		CE (JR/SR/RR)	
		C.F.O.	
		S.E. (O&M)	
5	14.02.12	Chief Engineer (ADB)	<ol style="list-style-type: none"> 1. Compliance of the works discussed to be done in the meeting dated 17.01.2012. 2. The contractors were asked to comply the complaints received regarding environmental.
		CE (JR/SR/RR)	
		C.F.O.	
		S.E. (O&M)	
6	02.03.12	Chief Engineer (ADB)	<ol style="list-style-type: none"> 1. Third party Consultant was invited and discussion over the environmental norms of ADB has been carried out. The DISCOM instructed the consultant to also look if the works will not be affecting the Environment.
		CE (JR/SR/RR)	
		C.F.O.	
		S.E. (O&M)	

MPPKVVCL Order No. DISCOM/EZ/WS/ADB/6623 Jabalpur

MPPKVVCL, JABALPUR.

NO.DISCOM/EZ/WS/ADB/

6623

Jabalpur, dated 10/11/09

ORDER

As per the provisions of ADB Loan agreement No. 2324 & 2347, 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 fulfill the above requirement, an Environmental and Social Management Unit (ESMU) in East Discom headed by CE(W&P) is hereby established consisting of the following officers.

Corporate Office

C.E (W&P)
S.E(W-ADB)
E.E (W-ADB)
A.E (W-ADB)

Field office

SE(O&M), Jabalpur
SE(O&M) Narsinghpur
SE (O&M) Damoh
SE(O&M) Sagar
SE (O&M) Tikamgarh
SE (O&M) Satna
SE(O&M) Rewa.

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.

[Signature]
CHIEF ENGINEER(W&P)

Cc to:

1. The ED/CE (JR/SR/RR), Jabalpur/ Sagar/ Rewa.
2. The SE (O&M), Jabalpur/Narsinghpur/Damoh/Sagar/Tikamgarh/Satna/Rewa
3. The SE(W-ADB), Jabalpur
4. The EE (W-ADB), Jabalpur
5. The AE (W-ADB), Jabalpur.
6. Mr. Thevakumar Kandiah, Director, Energy Division, South Asia Department (SAEN) Asian Development Bank, P.O. Box 789, Manila Philippines 0980.
7. Mr. Mukhtor Khamudkhanov, Senior Energy Specialist, Energy Division, South Asia Department (SAEN), Asian Development Bank, P.O. Box 789, Manila, Philippines 0980.
8. Mr. V. Rao Karbar, Energy Specialist, Asian Development Bank, Chanakyapuri HPO, New Delhi (India) e-mail : vkambar@adb.org

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 environmental issues during the implementation of the projects. The following consumers were entertained and during interaction it is found that the consumers are not facing any problems regarding the social or environmental life. No complaints so far received during the interaction with the consumer. The list of consumers interacted is as here under:

Jabalpur

SR NO	CONSUMER NAME	METER NO	A/C NO
1	M L KOCHAR	9139282	8600480
2	THE PRINCIPAL ST. JOSEPH	9199396	753208
3	FSM SISTERS MAHILA SADAN	9198555	800211
4	SANT THOMAS SCHOOL	9198548	9797798
5	THE PRINCIPAL	9198553	806882
6	THE SENIOR POST MASTER	9199273	819074
7	GENERAL MANAGER T&D	9199315	5622591
8	THE SDEO MPWD HG SECTION	9199275	787851
9	THE ASSISTANT RESEARCH	9199311	26712
10	THE DEEN VETNARY COLLEGE	9199330	7100036
11	THE PRINCIPAL	9199326	951882
12	THE DEAN VETNARY COLLAGE	9199327	4563992
13	THE PRINCIPAL	9199328	1359575
14	THE DEEN VETNARY COLLAGE	9199358	7013840
15	THE PRINCIPAL	9199357	1013051
16	P.K NAYAK	9199903	6226395
17	SALIL CHOUDHARY	9199262	4780395
18	SANJEEV K N DHODEY	9199272	4812190
19	R.S SAXENA	9199271	4819895
20	THE SUPRIDENT RMS	9198554	1250589
21	THE SUPRIDENT RMS	9198551	1250577
22	THE MOTHER SUPERIORST JOS	9199372	13651
23	PRINCIPAL ST. ALOYSIS HIG	9199395	144370
24	THE PRINCIPAL	9199360	9025911
25	THE COMMISSIONER OFFICE	9199261	13298
26	THE DEEN VETNARY COLLAGE	9199329	80056
27	THE OFFICER INCHARGE MILI	9199965	777134
28	THE PRINCIPAL ST ALOYSIUS	9199392	9787
29	THE CHAPLAI ROMAN CATHOLI	9199404	174889
30	THE EXECUTIVE OFFICER	9200033	7034325
31	G L SETHI	9199375	3608797
32	THE EXECUTIVE OFFICER CON	9200149	720800

REWA

S.No	Name	Meter No.	Service Connection No
1	CHATESHWAR PANDEY	3227573	99-6-863580
2	PRATIBHA DEVI PANDEY	3227562	99-6-77800
3	SURSHARI PANDEY	3227701	99-6-9051107
4	RAM KAILASH VISHWAKARMA	3227798	99-6-9051144
5	MADHAV PD. PANDEY	3227494	99-6-79637
6	MITHILA PRASAD MISHRA	3227685	99-6-863579
7	DURYODHAN PRASAD MISHRA	3227791	99-6-32955
8	SANT SHARAN TIWARI	3227743	99-6-9051090
9	BIHARI LAL PANDEY	3227399	99-6-9057286
10	SHESH PRASAD PANDEY	3227821	90-6-89280

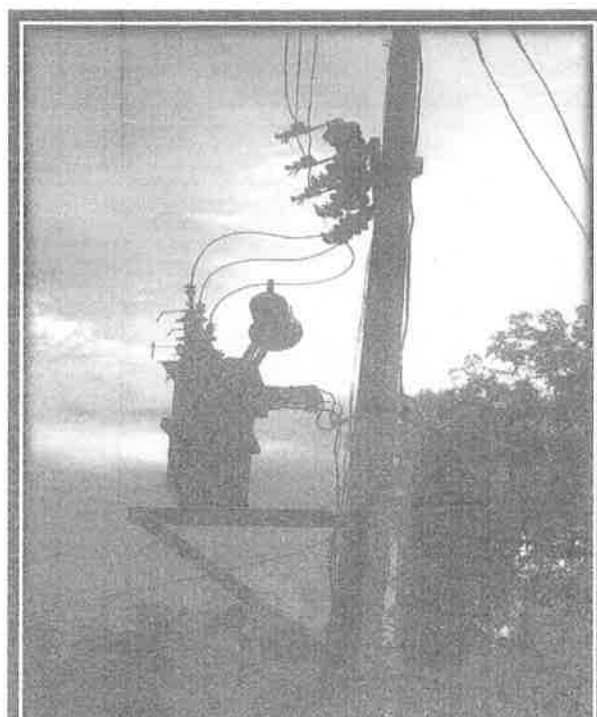
SATNA

LT SUBSTN	MTR_NO	CONS_NO	CONS_NAME	ADD1
ABKARI ROAD TT(T).ABR	302104	7683	SHOBH NATH MUNIM	
ABKARI ROAD TT(T).ABR	328653	88225	SHRI SANTOSH SONI	HANUMAN CHOWK
ABKARI ROAD TT(T).ABR	328658	166839	SMT.KAMLESH	HANUMAN CHOWK
ABKARI ROAD TT(T).ABR	310515	167352	VRINDAWAN	LOTAN AKHADA
ABKARI ROAD TT(T).ABR	329143	173558	SHRI SHANKAR LAL AGRAWAL	OPP. AGRAWAL DHARMSHALA
ABKARI ROAD TT(T).ABR	328673	186899	Shri Sekh Altab Raouf	S/o Shri Sekh Abdul Raouf
ABKARI ROAD TT(T).ABR	328674	196108	SH.SHANKER LAL SONI	S/O SH.LAXMI PD. SONI
ABKARI ROAD TT(T).ABR	328659	205481	SHRI KRIPAL DAS BADHWANI	S/O SHRI GOWARDHAN DAS
ABKARI ROAD TT(T).ABR	328657	265875	TULJA RAM SONI	S/O SHRI MEGHA RAM SONI
ABKARI ROAD TT(T).ABR	310376	339167	SHRI SATYENDRA KUMAR VERMA	S/O SHRI RAJENDRA KUMAR VERMA
ABKARI ROAD TT(T).ABR	302033	376711	MANIKLAL SONI	FOOLCHAND BHAIYA KE SAMNE
INFRONT SINDHI DHAR SH TTT.SDK	310099	43936	ANIL KUMAR SAXENA (O.A.GR II)	SATNA
INFRONT SINDHI DHAR SH TTT.SDK	310097	51957	SHYAM KISHOR SAXENA	
INFRONT SINDHI DHAR SH TTT.SDK	310098	176614	SHRI RAMJI SHRIWASTAV	STREET OFF NANAK STORE
INFRONT SINDHI DHAR SH TTT.SDK	310095	188380	SMT. GEETA GHOSH	W/O SHRI NIRMAL GHOSH
INFRONT SINDHI DHAR SH TTT.SDK	310096	259093	SHRI DHIRAN DAS BANGALI	S/O SHRI BRAJENDRA DAS
INSIDE TAL RADHE SHYAM TTT.ITR	310375	203885	SHRI MAHFOOZ KHAN	S/O SHRI MAQBOOL KHAN
KAWAR RAM TAL KI. S/S TTT.KRT	301826	184260	SHRI JUGUL KISHOR	KRISHANA NAGAR SATNA

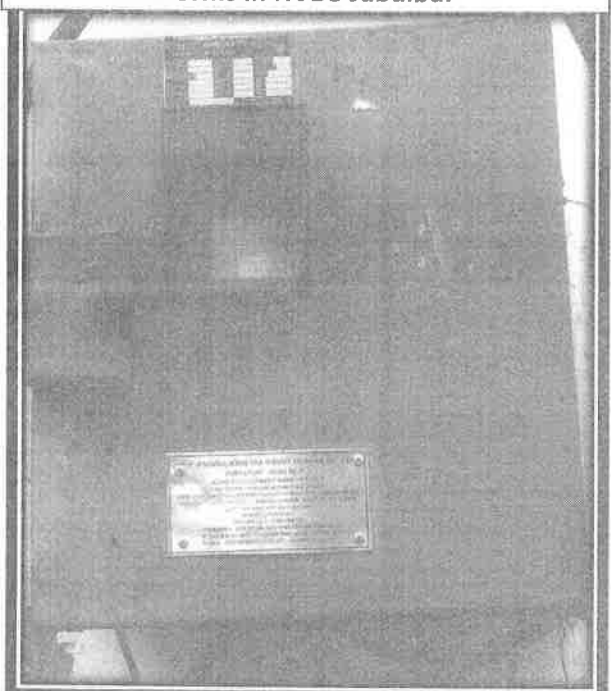
Pictures Showing Implementation of Projects Under Loan 2324



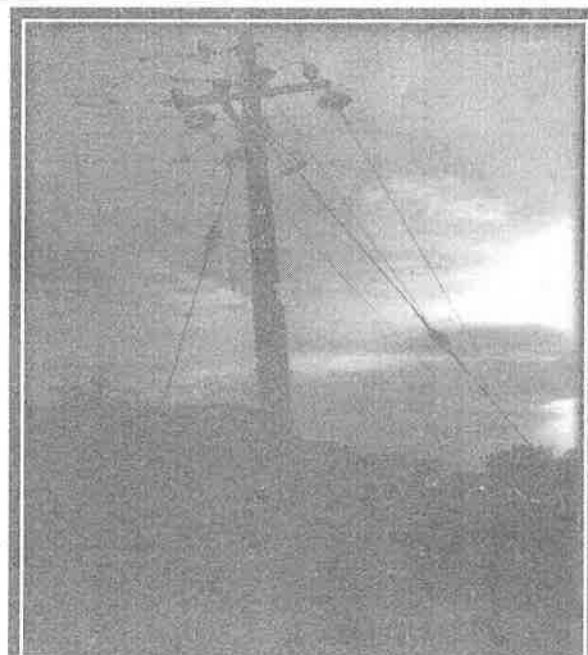
Pic-1. 11KV Line & Child DTR Bushing along-with Danger Board complying Environmental Norms in HVDS Jabalpur



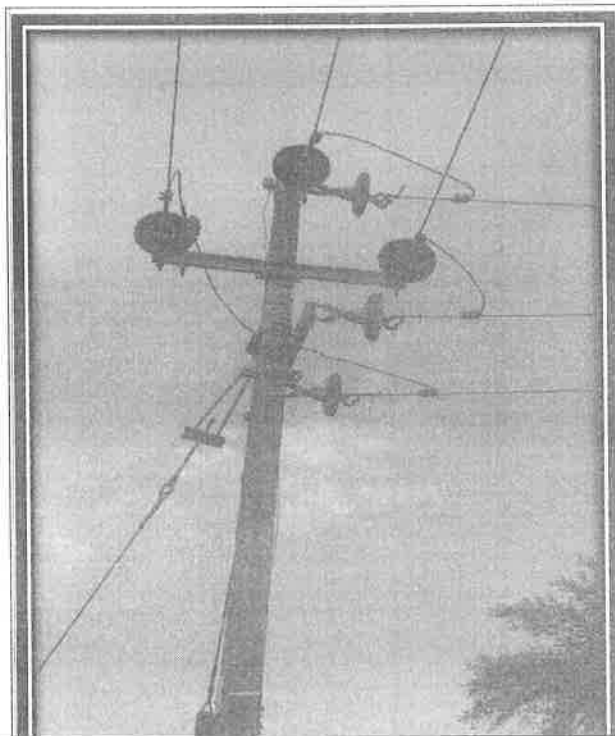
Pic-2. Child DTR Snaps under HVDS-I Project-Satna



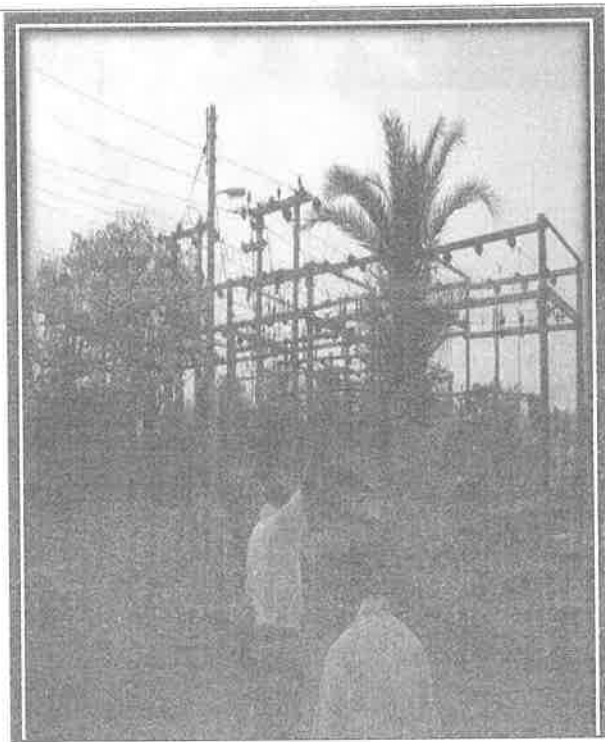
Pic- 3. Meter installed at Consumer end in Remote Metering Project - Satna



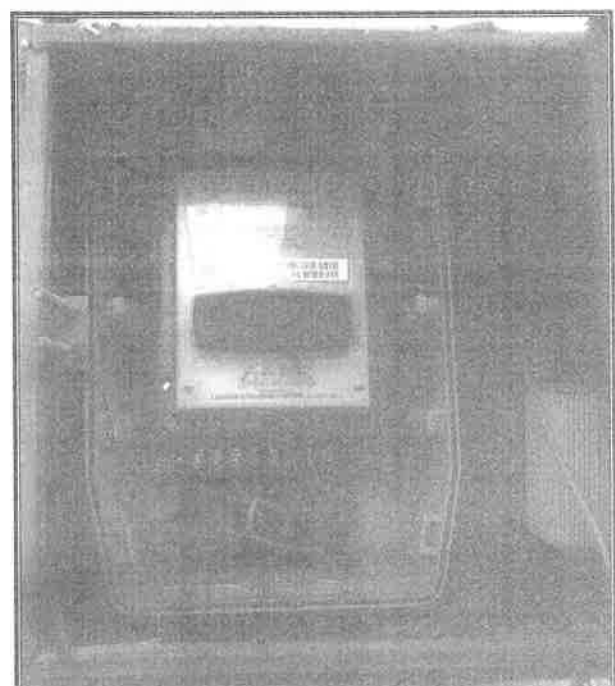
Pic- 4. Danger Board and Anti-climbing Device under HVDS Project at Patan (Compilation of ADB Environmental Norms



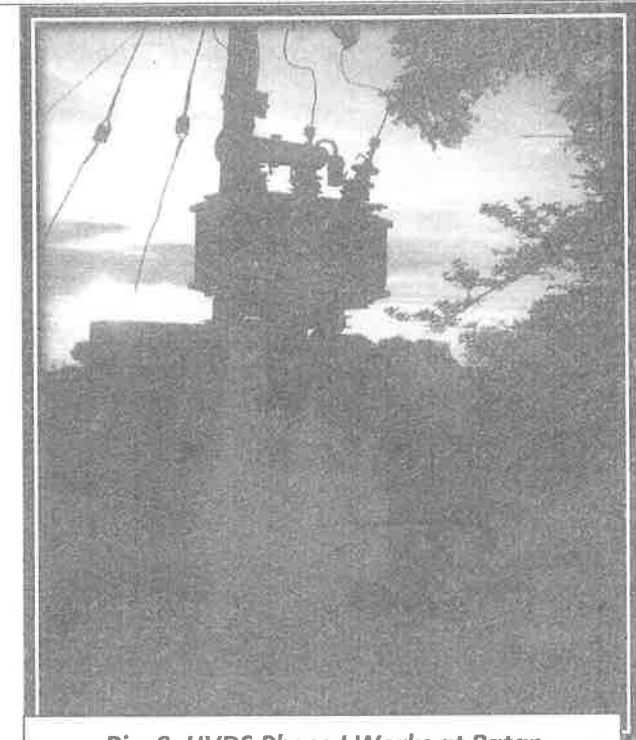
Pic- 5. Complying the ADB Norms Barbed Wire used



Pic- 6. Substation works Under HVDS Phase I



Pic- 7. Remote Metering Project Work



Pic- 8. HVDS Phase I Works at Patan

Project & Location Detail for Loan No. 2324 - IND

