



# Environmental Monitoring Report

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Project Number: 32298-033  
April 2015

Period: January 2011 – June 2011

## IND: Madhya Pradesh Power Sector Investment Program (Tranche 2)


Submitted by

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

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NO.DISCOM/EZ/ADB/ 743

Jabalpur, dated: 3/8/12

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     | 01.01.2011 to 30.06.2011 & 01.07.2011 to 31.12.2011 |
| 2347     | 01.01.2011 to 30.06.2011 & 01.07.2011 to 31.12.2011 |
| 2520     | 01.01.2011 to 30.06.2011 & 01.07.2011 to 31.12.2011 |
| 2732     | 01.07.2011 to 31.12.2011                            |

Thanking you,

Yours faithfully,

Encl: As above.

  
 (S.K.YADAV)

Copy to:

- 1 Shri J.Banerjee, Project Officer (Energy), INRM, Asian Development Bank, 4 San Martin Marg., Chanakyapuri, New Delhi- 110 021.
- 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



*HVDS: Child DTR Installation at Jabalpur*



HVDS phase-I Work of Patan, Jabalpur

वाष्कोस



WAPCOS

# WAPCOS Limited

(A Govt. of India Undertaking)

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**Head Office** : 76-C, Sector-18, Institutional Area, Gurgaon-122015.

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



**Environmental Monitoring Report**

**Loan Number :** *IND 2324*  
**Reporting period :** *January 2011 – June 2011*

**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: 13/07/2012

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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.

Govt. of Madhya Pradesh (GoMP) through Govt. of India (GoI) has utilized a multi-tranche financing facility from the Asian Development Bank (ADB) to fund the power sector investment programme in the State of Madhya Pradesh, to sustain the reform agenda established with earlier ADB support, and is expected to help attract other long-term financiers to the sector. 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.   | 75%                        |
| 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 Scope and Outcome.**

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 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. 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.

## **4. 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 Project area and fill up the check list accordingly.
- (vii) Meeting the consumers and survey has been done if any complaints were there in concern with the environmental issues.

The major environmental issues likely to be occurred during the implementation of the project as 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 contractors detailed alignment survey reports were reviewed at the Project Office and ensured that the line alignments are not encroaching into any national park or wildlife sanctuary.

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.

## 5. 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 5.1.

**Table 5.1: 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.

### **5. 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 6.1.

**Table 6.1: Environmental Compliance Requirements as per Agreement and Present Status:**

| <b>Sl. No.</b> | <b>Loan Agreement Reference</b>       | <b>Environmental Compliance Requirements</b>  | <b>Compliance Status</b>  |
|----------------|---------------------------------------|---|---|
| 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  |
| 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  | Complied with the extent as reported in column 3 of Table 5.1   |
|                | 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   | Detailed surveys were carried out before finalizing the sub-project locations and ensured that no   |

|    |                                       |  |   |
|----|---------------------------------------|--|---|
|    |                                       | 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.  | 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 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.

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.

## 7. 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 7.1.

**Table 7.1: 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  | Under this trench all the works are to be done on existing Network hence no new route selection to be done   |  |

|     |   |  |  |
|-----|---|--|--|
| 4.  | 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 between the top of tree and the regulator as per the regulations. Trees that can survive pruning should be pruned instead of clearing. | EMP included in the bid document. No trees cut/removed for the project. As existing LT lines are converted into HT lines, the trimmings of branches of trees are to be required only as operation and maintenance activity.   | 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 Only pole pit digging involved resulting very meager quantity of excavated earth  |   |
| 20. | Fuels and other hazardous  | No such equipments and materials  |   |

|     |   |  |  |
|-----|---|--|--|
|     | materials to be stored above high flood level   | 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/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.

#### **8. 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 as detailed in Annex-2. 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.

**9. 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 vigilant 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.

**10. 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.

**11. 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



**Chief Engineer (ADB)**  
**MPPKVCL, Jabalpur**

**Table 8.1: Environmental Meetings Reports**

| Meeting Details held at Madhya Pradesh Poorv Kshetra Vidyut Vitran 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)                              | <p>1. An order has been passed for the establishment of environmental and social safe guards under the area covered under project financed by ADB.</p> <p>2. A committee consisting of CE (W&amp;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.</p> |
|  |            | SE(W-ADB)                             |  |
|  |            | EE(W-ADB)                             |  |
|  |            | AE (W-ADB)                            |  |
|  |            | ENERGY SPECIALIST ADB                 |  |
|  |            | SENIOR ENERGY SPECIALIST ADB          |  |
| 2  | 12.10.11   | CE(JR)                                | <p>1. Indian Environmental Norms were discussed and action has been taken to follow the same.</p> <p>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</p>  |
|  |            | SE(O&M)                               |  |
|  |            | PRESIDENT                             |  |
|  |            | BUSINESS HEAD                         |  |
| 3  | 10.11.11   | CE(JR/SR/RR)                          | <p>1. CE ADB instructed the contractor to prepare the checklist to strictly follow the ADB environmental Norms.</p>  |
|  |            | SE(O&M) /AMR                          |  |
|  |            | ED                                    |  |

## 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.

  
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](mailto: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 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 | Name                      | Meter No. | Service Connection No |
|------|---------------------------|-----------|-----------------------|
| 1    | Shri Chateshwar Pandey    | 3227573   | 99-6-863580           |
| 2    | Smt. 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            |

### Tikamgarh:

| Sl. No. | Feedar     | Name               | Fathers Name       | Meter No. |
|---------|------------|--------------------|--------------------|-----------|
| 1       | KUNDESWAR  | CHANDRA BHAN YADAV | KANNU YADAV        | 3527439   |
| 2       |            | SUNY YADAV         | PARAM YADAV        | 3528131   |
| 3       |            | CHHANU YADAV       | HEERALAL YADAV     | 3527250   |
| 4       | HEERANAGAR | KURYA KHANGAR      | KALU KHANGAR       | 3665710   |
| 5       |            | SUKKY BUNKAR       | JAGGU BUNKAR       | 3665703   |
| 6       |            | GUDDU KACHI        | AJUDDI KACHI       | 3665704   |
| 7       | SAMMARA    | PERBESH AHIRWAR    | BIRINDABAN AHIRWAR | 3525300   |

Jabalpur:

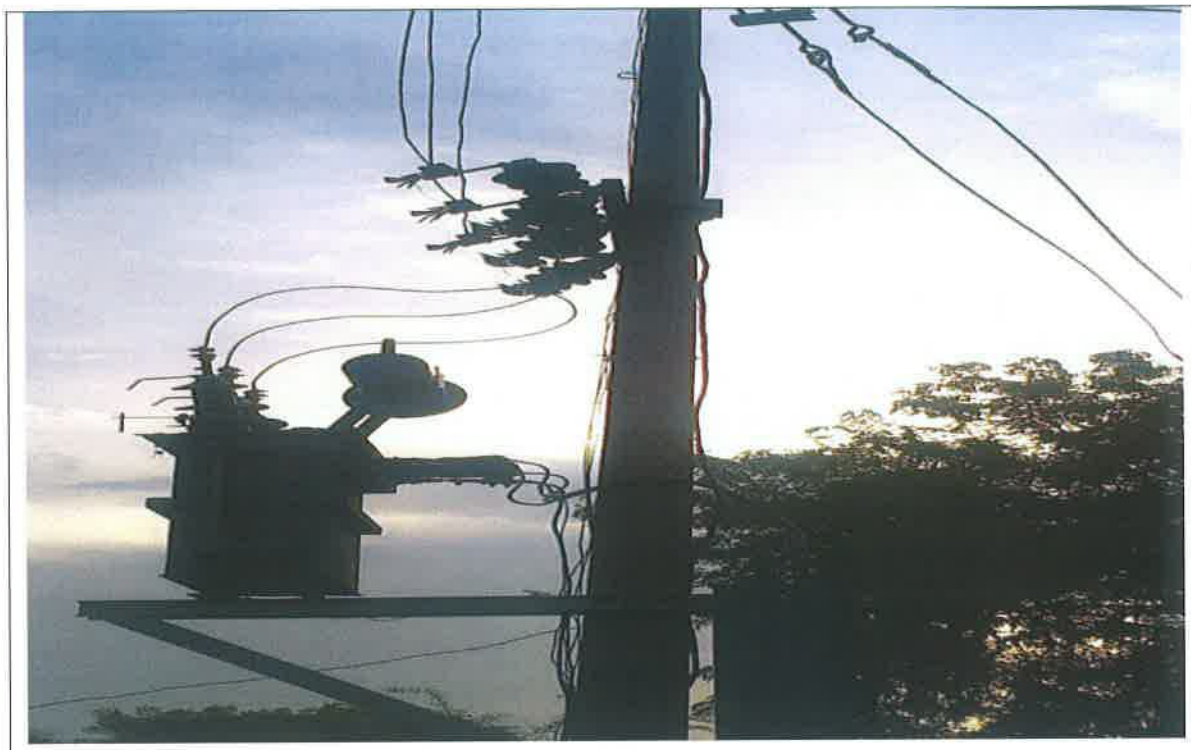
| SR NO | CONSUMER NAME             | METERNO | A/C NO |
|-------|---------------------------|---------|--------|
| 1     | ZIA-UL-HAQUE KAMRUDDIN HA | 9199198 | 444960 |
| 2     | MOHD FAROOQUE             | 9138953 | 237735 |
| 3     | ISMILE KHAN               | 9138955 | 380180 |
| 4     | VODAPHONE ESSAR           | 9199176 | 540079 |
| 5     | KUMARI ABHILASHA CHAUHAN  | 9199274 | 445964 |
| 6     | N S ROY                   | 9199212 | 64798  |
| 7     | EXECUTIVE ENGG. M.P.H.B   | 9199173 | 352329 |
| 8     | AYUKT NAGAR NIGAM PUNEET  | 9199174 | 352342 |
| 9     | TATA                      | 9199363 | 534365 |
| 10    | TRIBHUSHAN OJHA           | 9138647 | 916675 |

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

| Sl.No. | Name           | Fathers Name   | Meter No. | Signature of consumer | Remarks |
|--------|----------------|----------------|-----------|-----------------------|---------|
| 1.     | Yashwant Singh | Dhanuwan Singh | 283428    | 21/11/2017            |         |
| 2.     | Than Singh     | Gyan Singh     | 283757    | गानसिंह               |         |
| 3.     | Devendra Singh | Maan Singh     | 286136    | देवेंद्र              |         |
| 4.     | Darshan        | Lahru          | 231706    | दरश                   |         |
| 5.     | Rhacoor Singh  | Sudham         | 231205    | रघुचोर सिंह           |         |
| 6.     | Om Prakash     | Pancham        | 231707    | ओम प्रकाश             |         |
| 7.     | Shukon Singh   | Sala Singh     | 282012    | शुकुन                 |         |
| 8.     | Panna          | Sona Singh     | 280952    | पाना                  |         |
| 9.     | Bhagat         | Fogues         | 229867    | भोगी                  |         |
| 10.    | Titru          | Samudra Ram    | 229853    | टीतरु                 |         |
| 11.    | Dharam Singh   | Vishwanath     | 294572    | धरम सिंह              |         |
| 12.    | Bare Lal       | Shera Prasad   | 284129    | बारे लाल              |         |
| 13.    | Mukesh Lal     | Khunnu         | 250153    | मुकेश लाल             |         |
| 14.    | Gorind         | Patiram        | 229869    | गोविन्द               |         |



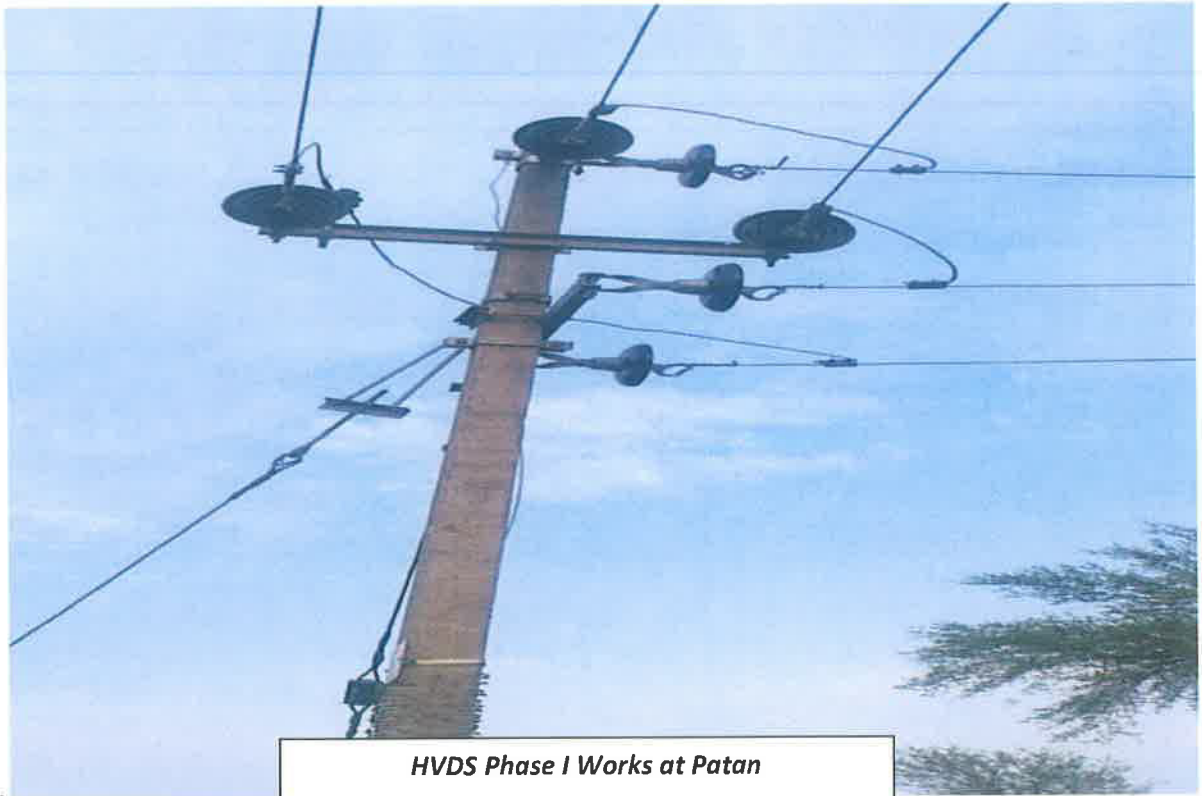
**PHOTOS SHOWING THE PROJECT IMPLEMENTATION**



*Child DTR Installed under HVDS Phase I Satna*



*Sub- Station works Under HVDS Phase -I, Satna*



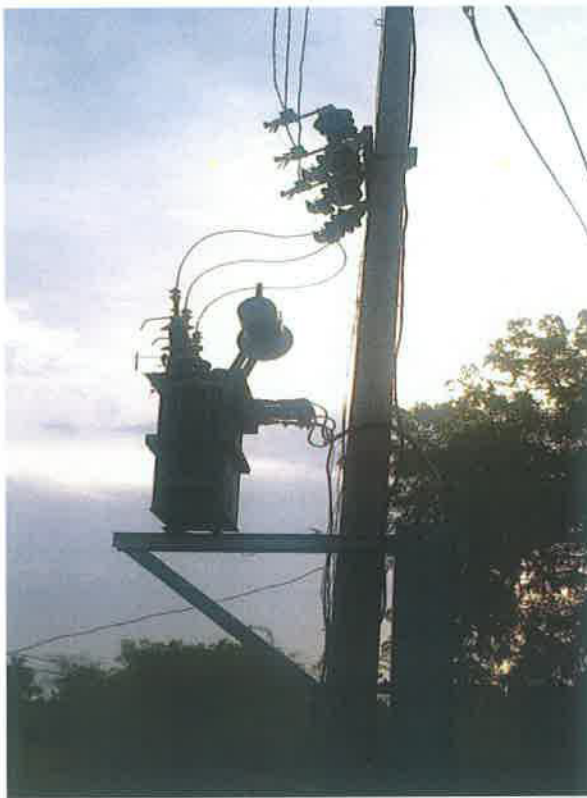
*HVDS Phase I Works at Patan*



*HT works performed under HVDS project at Patan*



***11KV Line &Child DTR work in HVDS Phase -1, Rewa.***

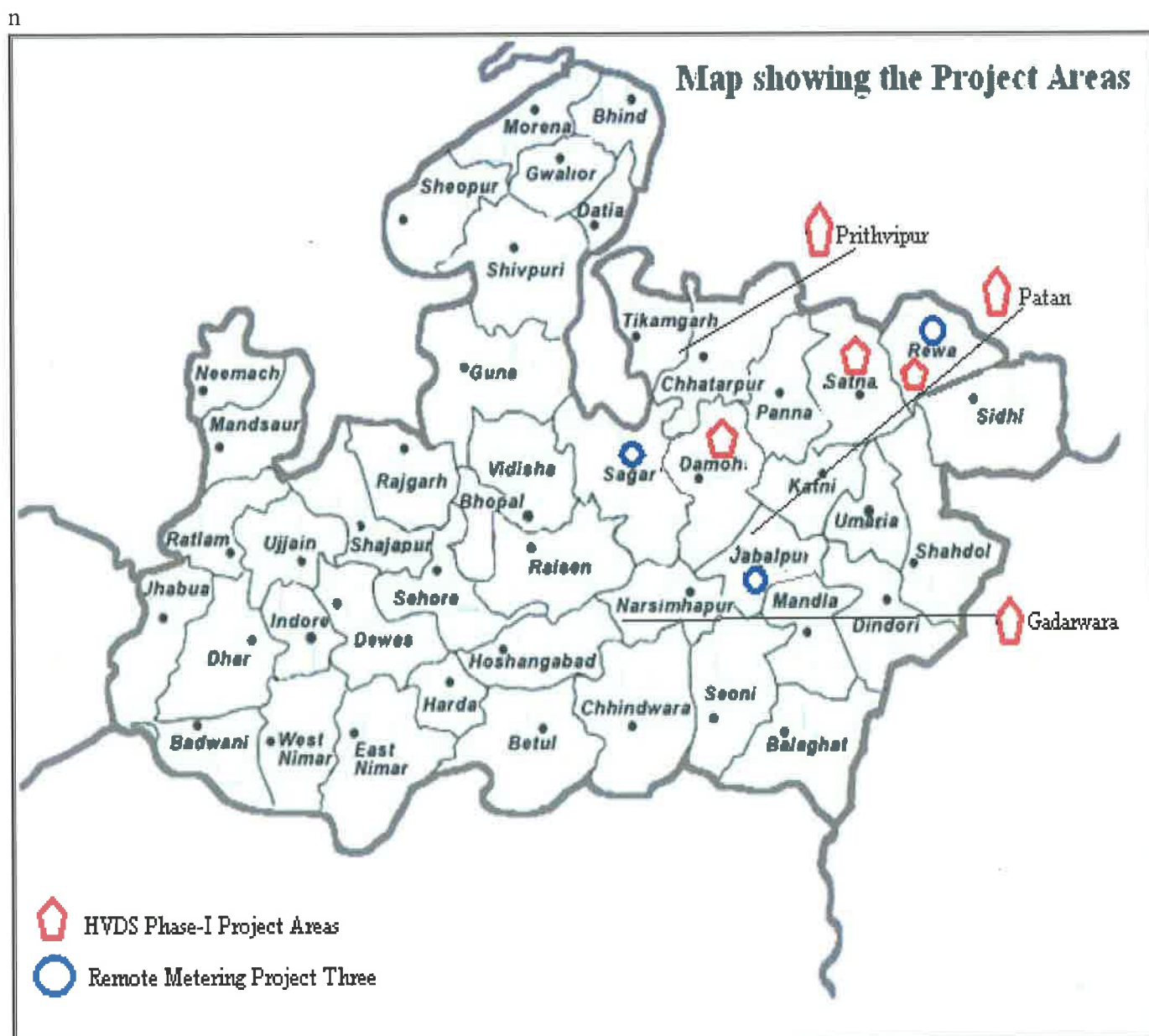


***Child DTR Snaps under HVDS-I Project- Satna***



***Meter installed at Consumer end In ECM Project - Satna***

## MAP SHOWING PROJECT LOCATION



**Project & Location Detail for Loan No. 2324 - IND**