

**INTEGRATED SAFEGUARDS DATA SHEET
APPRAISAL STAGE**

Report No.: ISDSA19791

Date ISDS Prepared/Updated: 19-Sep-2016

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I. BASIC INFORMATION

1. Basic Project Data

Country:	India	Project ID:	P155038
Project Name:	24x7 - Power for all in Andhra Pradesh (P155038)		
Task Team Leader(s):	Mani Khurana, Amol Gupta, Simon J. Stolp		
Estimated Appraisal Date:	08-Sep-2016	Estimated Board Date:	30-Nov-2016
Managing Unit:	GEE06	Lending Instrument:	Investment Project Financing
Is this project processed under OP 8.50 (Emergency Recovery) or OP 8.00 (Rapid Response to Crises and Emergencies)?			No
Financing (In USD Million)			
Total Project Cost:	570.00	Total Bank Financing:	240.00
Financing Gap:	0.00		
Financing Source			Amount
Borrower			170.00
International Bank for Reconstruction and Development			240.00
Asian Infrastructure Investment Bank			160.00
Total			570.00
Environmental Category:	B - Partial Assessment		
Is this a Repeater project?	No		

2. Project Development Objective(s)

The development objective of the project is to increase the delivery of electricity to customers and to improve the operational efficiency and system reliability in distribution of electricity in selected areas in Andhra Pradesh.

3. Project Description

The key components under the proposed Project are as follows:

Component 1: Power Transmission system strengthening (US\$ 100million of which IBRD \$70 million)

This component will make priority investments in 220 kV, 132 kV, 66 kV, and 33 kV transmission and sub-transmission lines and associated substations, to strengthen and augment the power system. The specific investments proposed by the state have been verified based on a load flow study. These investments will reduce overall transmission system losses and increase the capacity of the state transmission network to enable it to meet demand growth. A long list of twelve substations and the associated lines have been identified. These packages will be implemented through integrated turnkey supply and installation (S&I) contracts.

Component 2: Smart Grid Development in Urban Areas (US\$ 182 million of which IBRD \$127 million)

The Government of India has launched a "Smart Cities Mission", which aims to identify and develop a number of selected cities across India as "smart cities". It is expected that the development of these cities will develop a "smart city" model which can then be replicated throughout the country. In Andhra Pradesh, Kakinada, Vishakhapatnam and Tirupati have been selected for development as smart cities in the Smart Cities Challenge / conducted by GoI. This component would support investments in smart grids and underground cables in the above mentioned three cities. These investments would include smart meters for selected consumers, distribution SCADA, automated sub-stations, and ring main units. It also includes investments in distribution network strengthening & augmentation (33kV and below) in urban areas, to meet growing power demand, reduce technical & commercial losses, improve operational efficiency and increase the system reliability especially in coastal towns prone to natural calamities.

Component 3: Distribution System Strengthening – Rural (US\$ 267 million of which IBRD \$185 million)

This component would support strengthening and augmentation of the distribution network (33kV and below) and construction of the High Voltage Distribution System (HVDS) in rural areas. The majority of the investments under this component are located in Anantapur and Kurnool - the two new districts that have been transferred to APSDCL post the restructuring of the State. The power infrastructure in these districts is poor and the majority of power transformers, distribution transformers and feeder lines are overloaded, leading to frequent outages and high technical losses. As advised by the state, the AT&C losses in Anantapur and Kurnool districts are 18.3% and 10.8% respectively.

The objective of this component is to reduce distribution system losses, increase the capacity of the distribution network to meet growing load demand, improve system reliability, and improve the quality of supply to end consumers. The specific investment components are briefly described below:

- i. Rural HVDS: System losses will be reduced by replacement of the low voltage network with a high voltage distribution system (HVDS), and installation of a smaller capacity Distribution Transformers (DTR) to enable supply to two to three agriculture consumers per transformer. Andhra Pradesh has already implemented rural HVDS for a majority of its agricultural consumers with loss reductions and positive consumer feedback. An independent study / shows that, overtime, the distribution transformer failure rate has been reduced significantly, and the quality of supply has

improved. Under this project, AP plans to cover the agriculture consumers which are still not supplied by rural HVDS (i.e. around 30,000 agriculture consumers in APEPDCL), and convert all agricultural consumers in Anantapur and Kurnool to rural HVDS.

ii. Distribution Network Strengthening & Augmentation: This includes the investments required to augment and strengthen the distribution infrastructure in rural areas of the state. These investments are expected to improve the quality of supply in the intervention areas.

Component 4: Energy Efficient Pump Sets (US\$ 10 million of which IBRD \$7 million)

This component builds upon the learnings and experience of the above mentioned GOI scheme National Energy Efficient Agriculture Pumps Program which is currently under implementation in West Godavari district. This component would support the replacement of around 30,000 existing agricultural pump sets with BEE rated five star energy efficient pump sets, across APSPDCL. For the remaining pump sets in the selected area/ district, the project will support the installation of smart control panels on the pump sets to allow remote control and the ability to better control electricity consumption. This not only result in savings in agricultural electricity supply (which is subsidized by the State), but will also provide an opportunity to develop an informed estimate of the electricity being consumed in the agriculture sector.

Component 5: Technical Assistance for Institutional Development and Capacity Building (IBRD \$10 million)

This component would improve the project management capabilities and commercial performance of the AP utilities by (i) Improving ICT systems, (ii) improving the business processes, (iii) support supervision of contracts through Project Management Consultants, and (iv) building staff capacity through training, workshops, and study tours.

4. Project location and salient physical characteristics relevant to the safeguard analysis (if known)

Andhra Pradesh is located on the east coast in peninsular India facing the Bay of Bengal. The State has three physiographic zones, the hilly region (having Nallamalai, Erramalai hills and the Eastern Ghats having an altitude of 500 to 1400 m); the plateau (having an altitude of 100 m to 1000 m) and the deltas of rivers (between the Eastern Ghats and the Sea Coast). It has a coast line of 974 km and its major rivers are Krishna, Godavari, Thungabhadra. It has about 21% of the geographical area under forest cover with 6 National Parks and 21 Wildlife Sanctuaries. It has an ancient religious/cultural heritage and Tirupati is one of the most popular temples in the country. The state has a tribal population of 2.7 million amounting to 5.5% of the total population. A few pockets in three districts are predominantly inhabited by tribals and are covered under the Fifth Schedule of the Indian Constitution.

5. Environmental and Social Safeguards Specialists

Gaurav D. Joshi (GEN06)

Obaidullah Hidayat (GEN06)

Suryanarayana Satish (GSU06)

6. Safeguard Policies	Triggered?	Explanation (Optional)
Environmental	Yes	There will be some impact of the proposed intervention

Assessment OP/BP 4.01		on the biophysical and socio-economic environment that would need to be appropriately managed. Potential adverse impacts of the activities supported under the project include the changes to local drainage, felling of trees in locations of the facilities and along the RoW, unsafe conditions for workers and users close to project activity sites. These are addressed through an Environmental and Social Management Framework for the project which specifies how these would be handled as sub-projects are finalized.
Natural Habitats OP/BP 4.04	Yes	Significant impacts on natural habitats are not expected due to the nature and scale of transmission activities. The ESMF provides specific screening provisions to determine if natural habitats are an issue, and what environmental instrument is needed if the level of significance of the impacts is unknown. However, as specific subprojects and their locations are yet to be determined further information will be gathered during preparation of the safeguards documentation for these to ascertain specific impacts. If significant impacts are anticipated on critical habitats, the Project will not finance the particular subproject.
Forests OP/BP 4.36	Yes	The project does not envisage any commercial plantation or its harvesting. Some transmission lines may pass through forest areas and could have some impacts on the health and quality of forests. The ESMF provides for screening investments to avoid impacting the health and quality of forests. Any removal of trees will be compensated in line with relevant applicable regulation.
Pest Management OP 4.09	No	The Project does not involve the purchase or increased use of pesticides. Thus the Pest Management policy is not triggered.
Physical Cultural Resources OP/BP 4.11	Yes	Since the exact locations and alignments are not finalized, there can be some impact on such resources. There could be chance finds during construction. Project preparation will consider this aspect. ESMF has provisions to handle such situations and assessments for sub-projects will provide measures to handle these.
Indigenous Peoples OP/BP 4.10	Yes	AP state has a tribal population of 2.7 million amounting to 5.5% of the total population. A few pockets in three districts are predominantly inhabited by tribals and are covered under the Fifth Schedule of the Indian Constitution. Given the current plans, the project is unlikely to cover the tribal areas. Investment plans drawn as of now are exclusively in the non-tribal pockets only. However, to address such situations wherein the project is

		likely to be taken up in tribal areas, a Tribal Peoples Planning Framework (TPPF) has been prepared, translated into local language, and held consultations and disclosure workshops.
Involuntary Resettlement OP/BP 4.12	Yes	Lands are required for the project's two main activities: (i) construction of sub stations; and (ii) drawing up of transmission/ distribution lines. Approaches to secure lands have been drawn which includes: resettlement policy framework (RPF) for managing involuntary land acquisitions. The same is translated into local language and held consultations and disclosure workshops.
Safety of Dams OP/BP 4.37	No	The project is not supporting activities that have dams
Projects on International Waterways OP/BP 7.50	No	There are no impacts on international waterways by the project activities
Projects in Disputed Areas OP/BP 7.60	No	The project activities are not located in any disputed areas.

II. Key Safeguard Policy Issues and Their Management

A. Summary of Key Safeguard Issues

1. Describe any safeguard issues and impacts associated with the proposed project. Identify and describe any potential large scale, significant and/or irreversible impacts:

The project does not envisage any large scale , significant and / or irreversible impacts.

Andhra Pradesh is a highly diverse state in terms of social, economic, cultural and geographic characteristics. Its population of 49.5 million accounts for 4.10% of the country's population makes it the tenth most populous state in the country. The bulk of the population (71%) lives in rural areas and the remaining 29% live in urban areas. There are 12.72 million households in the State and the average size of the household is four. Inter and intra district demographic variations are quite substantial, given that the state has huge tracts of upland, forests and coastal areas. Social diversity is reflected in sizeable populations of Scheduled Caste (SC) (17%) and Scheduled Tribe (ST) 5.5 percent. Out of the total scheduled tribes in Andhra Pradesh, approximately 50% reside in four districts Vishakhapatnam (23%), East Godavari (11%), Nellore (10%) and Vizianagaram (9%). There are 34 major tribal groups and six primitive tribal groups inhabiting the state. Given the preponderance of tribal communities and compactness as well as collective attachment to the natural forest based environ, in certain pockets, safeguards have been built to ensure risks against land alienation and other socio-economic exploitations. This provision, enshrined under the Fifth Schedule of the Indian Constitution, recognizes several some tribal pockets in Vishakhapatnam, West Godavari and East Godavari districts. These areas are also prone to insurgency and conflict. Tribal People of Andhra Pradesh are economically and technologically better equipped than the tribes of other states.. Yet, remoteness and undulating hilly terrain could render them rather excluded at times.

Major social safeguards aspects relate to land and tribal people. The project will require lands for the (a) erection of towers to draw transmission lines and (b) construction of T&D substations. The

former does not entail permanent acquisition of lands, but creates some temporary damages, thereby demanding a Compensatory Plan for Temporary Damages (CPTD). The latter, however, does require land on a permanent basis. The state has reported that there may be no need to acquire lands involuntarily as the government lands are available in most cases. A few may be purchased in a willing buyer-willing basis at a negotiated rate. However, towards managing unforeseen circumstances, project has prepared itself for managing involuntary land acquisitions too for establishing transmission stations. For CPTD, the state intends to make use of the existing legislation Electricity Act of 2003 and Indian Telegraph Act of 1885. Further, some of the facilities may be taken up in scheduled/ tribal areas. In view of this situation, the project triggers OP 4.12 - Involuntary Resettlement and OP 4.10 - Indigenous Peoples.

To ensure compliance with the policies concerning safeguards management, the project has adopted a framework approach as all the investments have not yet been identified. Therefore, the state has prepared an Environment and Social Management Framework (ESMF) which is a generic document that serves as a framework and can be adopted for all sub projects .. Essentially, the framework is prepared based on the recently approved World Bank assisted North East Power Systems Improvement Project Power System Improvement Project and incorporates due requirements of Indiasnew ③(③ The Right to Fair Compensation in Land Acquisition, Resettlement and Rehabilitation Act 2013 ③(③ (LARR 2013) as well as Indian Constitutions Fifth Schedule provision related to protecting the interest of the tribal people.

The ESMFs social content embodies a synthesis of the Resettlement Policy Framework (RPF) (according to OP 4.12) and a Tribal People Development Planning Framework (TPPF) (according to OP 4.10). In cases where land is to be acquired and/or there are tribal peoples in the subproject area, the framework will be adopted and a Social Assessment (SA) will be carried out to enable preparation of an RAP and/or Tribal Peoples Plan (TPP) as appropriate.. The Framework lays down the modalities for undertaking the SA as well as the preparation and implementation of the RAP and TPPs. In such cases, wherein, lands need not be acquired involuntarily, the land will be secured through either voluntary donations or outright purchases based on negotiations with the land owners. Measures have been described in the Framework to ensure that such transactions are voluntary and not subject to any external pressures.

One major issue to be resolved relates to detailing compensations to be paid in the case of ROW/ CPTD. GOAP is in broad agreement on complying with the stipulations laid out under the Bank's policy OP 4.12 as well as the Indian National legislation as detailed in the Central Electricity Act of 2003. Both policies stipulate that there is no need to acquire lands, but, makes a provision for extending easement assistance or compensations. Following this, it has been agreed that: (i) land under the tower footing, though need not require to be acquired, shall be fully compensated and allowed to use the land (raising the crops) under the footing; and (ii) all damages / disturbances (crops, structures, trees, equipment etc.) shall be compensated fully. However, detailing of the implementation modalities are being worked out. The Bank requires that: (i) agreements are formalized by GOAP; and (ii) that all individual RAPs are necessarily be reviewed and agreed with the Bank before implementation. All these issues are expected to be resolved during project appraisal.

Environment Potential impacts identified during the implementation phase include clearance/ felling of trees within the right of way (RoW) for transmission lines and substation sites, any

<p>incidental impacts on local fauna, localized drainage issues where substation construction may impede drainage, safety of workers and near-by residents. The operational phase impacts could arise from indiscriminate use and disposal of batteries, transformer oil, e-waste and in case of circuit breaker SF6 handling. Most of these environmental impacts are likely to be short-term, modest, site-specific and reversible in nature where, mitigation measures can be managed to reduce the negative impacts of the interventions. It is possible that the installation of energy efficient pumps, if run for the same duration as inefficient pumps, could lead to sub-optimal water use or wastage. In view of this, the project is classified as Category B.</p>
<p>2. Describe any potential indirect and/or long term impacts due to anticipated future activities in the project area:</p>
<p>Not anticipated.</p>
<p>3. Describe any project alternatives (if relevant) considered to help avoid or minimize adverse impacts.</p>
<p>One of its objectives of the ESMF is to minimize negative impacts and maximize positive impacts. Careful site selection is built into the framework so that adverse impacts can be minimized. Sub-project specific documents will include description of alternatives considered in for minimizing potential adverse impacts.</p>
<p>4. Describe measures taken by the borrower to address safeguard policy issues. Provide an assessment of borrower capacity to plan and implement the measures described.</p>
<p>The ESMF will guide the sub-project specific assessments for environmental and social aspects. It provides guidance on preparation of SAs/EIAs and ESMPs for sub-projects, along with samples of outputs expected before implementation. It includes methodologies to be adopted for consultation and options for mitigation and management. In addition, significant emphasis has been put on safe management of implementation of transmission as well as distribution sub-projects. Guidance is also provided for reporting and monitoring. Capacity building measures including training session descriptions have been identified for various levels of staff in the utilities. Line items budgetary resource needs have been estimated that would be frozen for each scheme as the detailed information becomes available. A separate study on the environmental impacts of installation of energy efficient pump sets with special focus on groundwater abstraction and related issues will be undertaken before any pilot installations are undertaken.</p>
<p>BORROWERs CAPACITY: As the state got bifurcated (into Andhra Pradesh and Telengana) in 2014, the power transmission and distribution in AP now rests with three entities: (i) APTRANSCO or Power Transmission Corporation of AP Ltd. with a state wide mandate for constructing, operating and maintaining the power transmission network in the state; (ii) Southern Power Distribution Company o APSPDCL, covering eight districts; and (iii) Eastern Power Distribution Company or APEPDCL for five districts in the remaining part of the state. These three Implementing Agencies, which are expected to handle most of the investments, have considerable knowledge and experience of addressing environment and social safeguard issues as they have implemented, or are currently implementing, several projects financed by bi-lateral and multi-lateral agencies. One such project is the ongoing World Bank financed Andhra Pradesh Disaster Recovery Project involving underground cabling in Vishakhapatnam. The other, recently launched, is the Andhra Pradesh Green Energy Corridors Project, financed by KfW.</p>
<p>In context of the limited impacts of transmission line infrastructure on the biophysical environment, the Transco's environmental and social cell is adequate to handle the issues where no significant environmental receptors like Natural Habitats are involved. Similarly, for the</p>

<p>distribution works, having common staff is normally adequate for handling the small-scale impacts. However, if subsequent sub-projects reveal a different nature/scale of impacts, this capacity may need to be augmented with focused external inputs such as for biodiversity.</p> <p>Towards mainstreaming social and environment aspects, the project will invest in building dedicated social and environmental capacity in each of the Implementing Agencies and enable development of a robust environmental and social management framework. It has also been agreed for setting up of E&S cell in each of the three utilities within the PIUs. Thus, adequate implementation capacity does exist in the state for managing the current project as well.</p>
<p>5. Identify the key stakeholders and describe the mechanisms for consultation and disclosure on safeguard policies, with an emphasis on potentially affected people.</p>
<p>The key stakeholders include the local residents in the project area, staff of the utilities implementing the project, other line departments of GoAP. Extensive consultations have been undertaken with select stakeholders during the preparation of ESMF. Formal consultation cum disclosure workshops have also been held by each of the three implementing utilities. The ESMF has been disclosed in country on August 5, 2016 and externally through Bank infoshop on August 23, 2016.</p>

B. Disclosure Requirements

Environmental Assessment/Audit/Management Plan/Other	
Date of receipt by the Bank	25-Jul-2016
Date of submission to InfoShop	23-Aug-2016
For category A projects, date of distributing the Executive Summary of the EA to the Executive Directors	
"In country" Disclosure	
India	05-Aug-2016
<i>Comments:</i>	
Resettlement Action Plan/Framework/Policy Process	
Date of receipt by the Bank	25-Jul-2016
Date of submission to InfoShop	23-Aug-2016
"In country" Disclosure	
<i>Comments:</i>	
Indigenous Peoples Development Plan/Framework	
Date of receipt by the Bank	25-Jul-2016
Date of submission to InfoShop	23-Aug-2016
"In country" Disclosure	
<i>Comments:</i>	
If the project triggers the Pest Management and/or Physical Cultural Resources policies, the respective issues are to be addressed and disclosed as part of the Environmental Assessment/Audit/or EMP.	
If in-country disclosure of any of the above documents is not expected, please explain why:	

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C. Compliance Monitoring Indicators at the Corporate Level

OP/BP/GP 4.01 - Environment Assessment			
Does the project require a stand-alone EA (including EMP) report?	Yes [<input checked="" type="checkbox"/>]	No [<input type="checkbox"/>]	NA [<input type="checkbox"/>]
If yes, then did the Regional Environment Unit or Practice Manager (PM) review and approve the EA report?	Yes [<input type="checkbox"/>]	No [<input type="checkbox"/>]	NA [<input type="checkbox"/>]
Are the cost and the accountabilities for the EMP incorporated in the credit/loan?	Yes [<input type="checkbox"/>]	No [<input type="checkbox"/>]	NA [<input type="checkbox"/>]
OP/BP 4.04 - Natural Habitats			
Would the project result in any significant conversion or degradation of critical natural habitats?	Yes [<input type="checkbox"/>]	No [<input type="checkbox"/>]	NA [<input checked="" type="checkbox"/>]
If the project would result in significant conversion or degradation of other (non-critical) natural habitats, does the project include mitigation measures acceptable to the Bank?	Yes [<input type="checkbox"/>]	No [<input type="checkbox"/>]	NA [<input checked="" type="checkbox"/>]
OP/BP 4.11 - Physical Cultural Resources			
Does the EA include adequate measures related to cultural property?	Yes [<input checked="" type="checkbox"/>]	No [<input type="checkbox"/>]	NA [<input type="checkbox"/>]
Does the credit/loan incorporate mechanisms to mitigate the potential adverse impacts on cultural property?	Yes [<input checked="" type="checkbox"/>]	No [<input type="checkbox"/>]	NA [<input type="checkbox"/>]
OP/BP 4.10 - Indigenous Peoples			
Has a separate Indigenous Peoples Plan/Planning Framework (as appropriate) been prepared in consultation with affected Indigenous Peoples?	Yes [<input checked="" type="checkbox"/>]	No [<input type="checkbox"/>]	NA [<input type="checkbox"/>]
If yes, then did the Regional unit responsible for safeguards or Practice Manager review the plan?	Yes [<input checked="" type="checkbox"/>]	No [<input type="checkbox"/>]	NA [<input type="checkbox"/>]
If the whole project is designed to benefit IP, has the design been reviewed and approved by the Regional Social Development Unit or Practice Manager?	Yes [<input checked="" type="checkbox"/>]	No [<input type="checkbox"/>]	NA [<input type="checkbox"/>]
OP/BP 4.12 - Involuntary Resettlement			
Has a resettlement plan/abbreviated plan/policy framework/process framework (as appropriate) been prepared?	Yes [<input checked="" type="checkbox"/>]	No [<input type="checkbox"/>]	NA [<input type="checkbox"/>]
If yes, then did the Regional unit responsible for safeguards or Practice Manager review the plan?	Yes [<input checked="" type="checkbox"/>]	No [<input type="checkbox"/>]	NA [<input type="checkbox"/>]
Is physical displacement/relocation expected?	Yes [<input type="checkbox"/>]	No [<input checked="" type="checkbox"/>]	TBD [<input type="checkbox"/>]
Provided estimated number of people to be affected			
Is economic displacement expected? (loss of assets or access to assets that leads to loss of income sources or other means of livelihoods)	Yes [<input type="checkbox"/>]	No [<input type="checkbox"/>]	TBD [<input checked="" type="checkbox"/>]
Provided estimated number of people to be affected			
OP/BP 4.36 - Forests			

Has the sector-wide analysis of policy and institutional issues and constraints been carried out?	Yes [] No [] NA []
Does the project design include satisfactory measures to overcome these constraints?	Yes [] No [] NA []
Does the project finance commercial harvesting, and if so, does it include provisions for certification system?	Yes [] No [] NA []
The World Bank Policy on Disclosure of Information	
Have relevant safeguard policies documents been sent to the World Bank's Infoshop?	Yes [×] No [] NA []
Have relevant documents been disclosed in-country in a public place in a form and language that are understandable and accessible to project-affected groups and local NGOs?	Yes [×] No [] NA []
All Safeguard Policies	
Have satisfactory calendar, budget and clear institutional responsibilities been prepared for the implementation of measures related to safeguard policies?	Yes [×] No [] NA []
Have costs related to safeguard policy measures been included in the project cost?	Yes [×] No [] NA []
Does the Monitoring and Evaluation system of the project include the monitoring of safeguard impacts and measures related to safeguard policies?	Yes [×] No [] NA []
Have satisfactory implementation arrangements been agreed with the borrower and the same been adequately reflected in the project legal documents?	Yes [×] No [] NA []

III. APPROVALS

Task Team Leader(s):	Name: Mani Khurana, Amol Gupta, Simon J. Stolp	
<i>Approved By</i>		
Practice Manager/ Manager:	Name: Demetrios Papathanasiou (PMGR)	Date: 22-Sep-2016