

LOSS REDUCTION PROGRAMME IN DISTRIBUTION SECTOR, RAJASTHAN

- 1.1 Three distribution companies JAIPUR/AJMER/JODHPUR VIDYUT VITRAN NIGAM LIMITED have been established under the Companies Act, 1956 by Govt. of Rajasthan, with the principal objective of engaging in the business of distribution and supply of electricity in 32 districts (now 33) of Rajasthan. The power supply in the Discoms is managed through 26 distribution circles. Discoms are committed to reducing the distribution losses in rural area from current levels of about 60-70 % to 15-20 % by 2009 and has initiated several loss reduction and demand side management programs for achieving the targeted reduction in T&D loss.
- 1.2 The Project activity consists of transmission and distribution loss reduction in Rajasthan through investments in new sub-transmission and distribution lines, transformers, capacitors and other equipment. The result of this activity will reduce resistance and other types of losses thereby saving electricity and reducing the amount of electricity needed to supply customers. Transmission and distribution wires will be replaced with conductors of higher capacity and for higher voltage, therefore reducing the load from overloaded lines and thus reducing losses.
- 1.3 On the distribution side, the project is in the process of installing new equipment that will reduce both technical and non-technical losses in the transmission system. Specifically, the project will reduce the length of low-tension (LT) lines and replace them with high-tension lines, installation capacitors, lower capacity transformers and other compensation equipment to reduce losses on the distribution side (at 33 kV) substations.

Loss Reduction Programme

- 1.4 The increased hours of supply to Agriculture and Rural domestic consumers have resulted in higher loss levels in FY 03 & FY 04. The efficiency improvement and distribution loss reduction are one of the key elements of turnaround strategy.
- 1.5 The target of distribution loss level of 20% at the end of FY 12 can only be achieved through focused investment/initiatives to reduce losses. The distribution companies have drawn up “Feeder Renovation Program” closely inked to the loss reduction trajectory assumed by them in their business plans as part of the updated Financial Restructuring Plan.

Current Initiatives for loss reduction

1.6 For accelerated loss reduction, the Discoms are carrying out following three focused loss reduction initiatives:

- Feeder Renovation Program
- Urban Focus Program
- Industry Focus Program

Feeder Renovation Program

1.7 The feeder renovation program is targeted towards high loss pocket areas with an aim to significantly reduce the present loss levels through

- Installation of single-phase transformers to feed domestic and non-domestic load in rural areas.
- Providing of small 25kVA distribution transformers with a distribution box attached to its body, having provision for installation of meters, MCCB and capacitor.
- Laying of direct insulated service line to each agriculture consumer from distribution transformers.
- Replacement of existing obsolete service line of consumers by armoured PVC cables.
- Installation of push-fit meters by replacing the existing sluggish meters.

Progress up to June 09

Nigam	Total coverage of FRP		Work Completed up to June 2009				Balance feeders for renovation
	No of feeders	No. of villages	No of Feeders renovated	No of Villages getting supply at par with nearby urban area	Completion in %		
					No of Feeders renovated	Villages getting supply at par with nearby urban area	
1	2	3	4	5	6	7	8
Jaipur	2468	13117	2259	13117	91.5%	100.00%	209
Ajmer	2975	12529	2216	12529	74.5%	100.0%	759
Jodhpur	3407	10848	2966	10848	87.1%	100.0%	441
Total	8850	36494	7441	36494	84.1%	99.99%	1409

1.8 Physical achievement up to June, 2009.

Nigam	Physical Progress				Expenditure in Cr Rs
	Installation of 3 ph small size DTs with mtr, capacitor & MCCB	Installation of single ph transformers	Laying of AB cable in kms	Installation of Push fit type meters	
1	2	3	4	5	6
Jaipur	123242	59536	23522	542985	1392
Ajmer	71790	55261	35068	615533	1017
Jodhpur	50877	287780	23727	489296	505
Total	245909	402577	82317	1647814	2914

1.9 T&D loss reduced from 60-70 % to 15-20 % .

1.10 All 36494 electrified villages getting continuous supply at par with nearby urban town.

1.11 Work of remaining Feeders will be completed up to Aug, 2009.

Industrial Focus Program

1.12 A major proportion of the Discoms revenue comes from large industrial customers, which are few in numbers and are concentrated in the designated industrial areas. The Discom has initiated an Industrial Focus Program for such customers with an objective of revenue maximization and also to provide enhanced quality of supply.

Technical Intervention

- Segregation of Rural Feeders from Industrial Feeders.
- Fault Free Feeder scheme introduced. In case of no fault incentive @ Rs. 1000/- per feeder allowed to AEN/JEN/Staff. Monthly Energy Audit for each feeder
- One Consumer, one Transformer scheme for MIP with check meter introduced
- Expediting release of New Industrial connections
- Replacement of slow and sluggish meters by Push-Fit type meters

- Change of obsolete Service Line by armoured cable.

Progress up to June 09

- Work is almost completed.
- Losses reduced in 111 industrial areas out of identified 141 below 3 %

Urban Focus Program

1.13 The Urban Focus program aims at improving the quality of supply to the urban customers and also reducing the distribution losses in the urban area. The objectives of the program are similar to the Feeder Renovation Program with key elements as:

- Technical Intervention Covered all District Headquarters, Municipal Towns and Villages having population more than 5000.
- Segregation of Rural Feeders from Urban Feeders
- Replacement of slow and sluggish meters by Push-Fit type meters
- Replacement of Overhead bare conductors by Insulated wires in theft prone areas.
- Change of obsolete Service Line by armoured cable.

Progress up to June 09

- 70 % work completed and DT wise losses have been come down up to 10 % at LT level.
- DT level metering work is in progress for all district headquarters & Municipal towns & villages with population above 5000 and will be completed up to Dec 09.
- Status of % T&D loss level urban towns Rajasthan as whole is as under

Particulars	Loss level < 15 %	Loss level 15 to 20 %	Loss level 20 to 30 %	Loss level > 30 %	Total
1	2	3	4	5	6
No of District Hqtr.	12	5	9	7	33
No f Municipal Towns	53	24	44	31	152
Total MTs & DHQ	65	29	53	38	185

RESULTS SO FAR

- T&D loss reduced by 13.56 % in last 3 years

Particulars	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09
1	2	3	4	5	6	7
Distribution Loss	42.62%	41.10%	40.22%	34.65%	30.09%	26.76%
Collection Efficiency	98.96%	98.50%	98.35%	99.95%	98.30%	98.59%
AT&C Loss	43.22%	41.98%	41.21%	34.68%	31.28%	27.79%
Reduction in AT&C Loss		1.23%	0.78%	6.52%	3.40%	3.49%
