# Presentation on 18th May 2007 at Aizawl

Central Electricity Authority





## Sub-Group-1 Transmission and Distribution

Status of Report

- Information for preparation of Short, Medium and Long term Action Plan is being received from the states
- Analysis done based on received and earlier information
- Issues identified and parameters for evolving detailed scheme worked out

| | » | TARGET |
|---|---|---|
| • | Draft Report under preparation | June 1st week |
| • | Discussions with states before final report | June |
| • | Final Report | June end |
| • | PGCIL to prepare DPR giving detailed scheme and including studies, project profile and cost estimates based on pre-engineering and field survey<br><br>(Comprehensive DPR for T&D works for Rs 5000 crores) | with in 3 months from release of the Rs 50 crores decided in the meeting held on 19.4.2007 |

# Transmission and Distribution

- Demand Growth
- Sourcing of power including tie-up from coming-up generation projects

- Inter-state or Regional Transmission System for supply within NER
- Intra-state transmission and sub-transmission system
- Distribution system
- Rural Electrification – Distributed/Local/Isolated Generation





## Demand Growth

| | 2006-07 Unrestrcted | 2011-12 17 EPS | 2013-14 Best Effort |
|---|---|---|---|
| Arunachal | 70 | 116 | 140 |
| Assam | 900 | 1443 | 1760 |
| Manipur | 130 | 203 | 250 |
| Meghalaya | 350 | 428 | 690 |
| Mizoram | 70 | 115 | 140 |
| Nagaland | 110 | 152 | 210 |
| Tripura | 180 | 282 | 350 |
| Sikkim | 70 | 120 | 140 |
| NER | 1880 | 2620 | 3680 |

# Sourcing of Power

- → **Need for allocation from Thermal Generation in Eastern Region coming up during 2008-11**
- → **Purchase of power from Tripura gas of ONGC through PTC**
- → **Allocation from Subansiri Lower and Kameng to outside NER so that inter-regional transmission system including associated regional system within NER could be built on commercial basis**
- → **NER states should seek power from Ultra-mega Thermal Projects**





## Requirement of T & D System for meeting demand of 3700MW

| | Physical | Financial Rs crore |
|---|---|---|
| Regional inter-state system for supply within NER | ~ 18 nos of new 400kV and 220kV substations with feeding lines besides extension of existing substations | 3000 of which 1500 by ATS |
| Intra-state sub-transmission system | ~ 90 nos of new 132kV substations with feeding lines besides extension of existing substations | 4000 |
| Distribution (excluding rural electrification and distributed generation) | 33/11kV substations, 33kV & below line, Distribution Transformers, Metering, and IT in distribution | 4000 |
| Total T & D System | | 9500 |

Phase-1 Rs 4500 crore during 2007-10
Phase-2 Rs 5000 crore during 2010-14

## Higher Costs in NER

Costs are higher in NER due to

- Terrain
- Low Load Factor
- Logistic overheads
- Poor vendor response
- Sparcity and low load density
- Initial state of development
- Law and Order factor

- Non-hilly areas outside NER : 1
- Hills of H.P., Uttrakhand : 2
- NER including Assam : 3
- Even in plains of Assam, costs are higher due to more number of pile foundations in transmission lines





## Vision 2020 and Road Map

From 2007 to 2012 (XI Plan)
- → Accelerated development with 90% grant

From 2012 to 2017 (XII Plan)
- → Balanced mix of Hydro share from within NER and Thermal share from outside NER
- → Availability > Demand
- → Operational surplus to give revenue
- → Speedy development with need of grant reducing to below 50%
- → No constraints in Transmission and Distribution System

From 2017 onwards
- → More of Hydro share from within NER
- → Availability > > Demand
- → Firm and Operational surplus to give increasing revenue
- → Self sustaining take-off towards making NER as electricity power hub of the country
- → Cash rich

Vision 2020
- → Demand 6000 MW
- → Hydro Generation 25000 MW of which 10000MW allocated to outside NER and 3000MW of thermal power from outside NER allocated to NER – all commercial tie-ups
- → Reliable Transmission and Distribution system
- → Distributed Generation and Gas generation to provide additional comfort

# *Thank You*