

**GOVERNMENT OF INDIA
POWER
LOK SABHA**

UNSTARRED QUESTION NO:520
ANSWERED ON:02.03.2007
NATIONAL POWER GRID
Singh Shri Sugrib

Will the Minister of POWER be pleased to state:

- (a) whether the Government proposes to introduce new technology for upgradation of the National Power Grid;
- (b) if so, the details and salient features thereof; and
- (c) the capacity of the National Power Grid at present and likely to be increased after introduction of new technology?

Answer

THE MINISTER OF POWER (SHRI SUSHILKUMAR SHINDE)

(a) & (b) : PGCIL has been constantly adopting latest technologies for increasing the power transfer capacity of the existing transmission lines and to build high capacity lines to meet the long-term power transmission requirements. The details of the technologies adopted or planned to be adopted are as under:

I. For enhancing the present capacity of the transmission system

- (i) Use of series compensation, fixed as well as dynamic such as TCSC (Thyristor Controlled Series Compensation).
- (ii) Upgradation of higher voltage line.
- (iii) Re-conductoring of transmission line.

II. For the long-term

- (i) EHVAC Transmission System at 800 kV and exploring the possibility of increasing the transmission voltage upto 1200 kV.
- (ii) + 800 kV, 6000 MW HVDC Bipole Transmission.
- (iii) Satellite imagery for Transmission Line Survey (Survey through GIS/Digital Terrain Model/Airborne Laser Terrain Mapping).
- (iv) High surge impedance lines
- (v) Compact Tower/Multi-conductor Bundle Line/High Capacity Multi-circuit Lines
- (vi) Automation of substation
- (vii) Live line activities through Helicopters and Robotics
- (viii) Gas Insulated lines
- (ix) Gas Insulated substation (765 kV/1200 kV)
- (x) Voltage Source Converter based Transmission-HVDC light
- (xi) High rupturing capacity circuit breakers.
- (xii) High temperature endurance conductor
- (xiii) Increase in conductor temperature limits.

(c) : The present inter-regional power transmission capacity of the National Grid is 11,450 MW which is planned to be enhanced to 37,000 MW by the end of 11th Plan. This includes the increase in power transmission capacity as a result of the introduction of new technologies.