

# Meeting of the Standing Committee of Experts to investigate the failure of Transmission Lines

This presentation is on the basis of careful investigation of towers collapsed at site .

# Classification of Reasons for Failure of Towers:

- In - adequate loads considered in design
- Location specific.

# In - adequate loads considered in design resulting in collapse of towers :

- Oblique wind was not considered in design, before implementation of revised IS 802 : 2015
- Wind on tower for window portion of S/C Delta / horizontal configuration to be considered on outer face and inner face separately.
- Change in wind pattern in India. (Revised Wind zone map recommended by SERC, but yet not implemented. )
- Suspension towers designed with No wind under security condition as per IS 802: 1991

# Location specific reason observed :

- Funnel effect ( Wind speed up) on tower between hills
- Wind speed up (diversion) due to trees around the tower
- Large water body near tower, increasing the terrain roughness coefficient.
- Theft of tower member + heavy wind
- Local tornedo effect
- Soil erosion around chimney
- Stub setting error ( Im-proper use of prop, raise chimney)
- Rusting of stub

# Precaution to avoid collapse of towers

- Suspension towers with in- adequate design shall be strengthened.
- To inspect and replace the missing members on priority.
- To inspect and report the incidence with bend members. (Team of experts to visit such locations to suggest remedial measures.)
- Locations with frequent soil erosion should be treated in special manner to avoid any soil erosion.
- Concrete encasing / painting of stub/ leg in water logged area.

# Precaution to avoid collapse of towers

- Design of towers failing repeatedly shall be got verified by independent experts.

THANKS

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adani™

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Doing better

Our values: Courage, Trust and Commitment