

TRANSMISSION CORPORATION OF ANDHRA PRADESH LIMITED

Office of the Director
Grid, Transmission & Management
Vidyut Soudha, Hyderabad-82.

Circular Memo Ms 14/ CE/Const-I/SE/PM-I/DE(D&A)/D.No 535/2013, Dt. 18.11.2013.

Sub:- History of lines & Numbering of tower locations – Procedure to be adopted – guidelines – issued –Regarding.

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The procedure to be adopted for numbering the tower locations of the transmission lines and the data, records, drawings of the Transmission towers and lines to be maintained by the TL & SS field offices are here with communicated for strict adherence and implementation.

1) **The Procedure for Numbering of Location of Towers and Maintaining of the important documents pertaining to the Transmission line.**

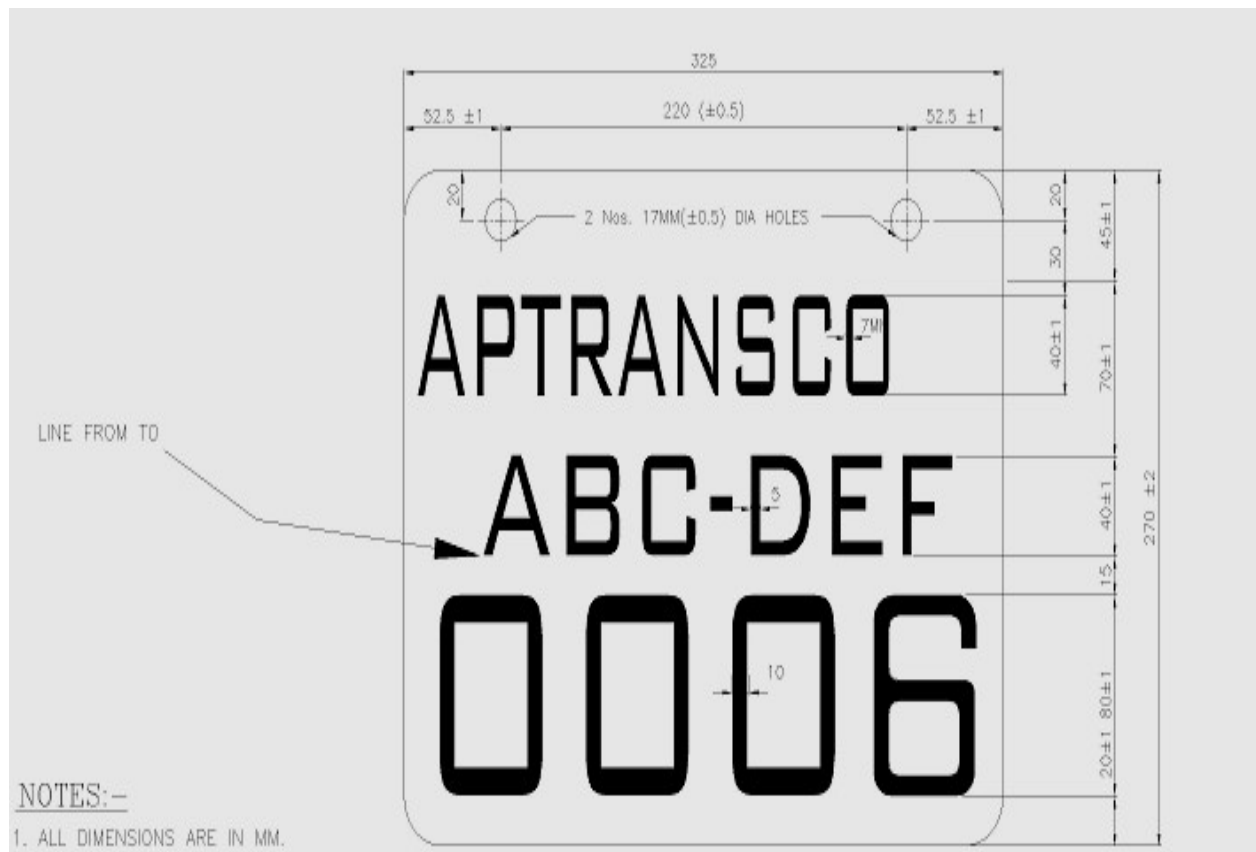
Each tower shall be fitted with number plate, danger plate, circuit number plate and phase plate.

The location number of tower shall be as follows.

- a) Each tower in any transmission line is allotted a number in a serial order commencing from terminal tower of one substation and ending with the terminal tower on the other end.
- b) In case of Radial lines between EHT Substations the location number is to be commenced from source substation. In case of Evacuation Lines, the location numbers are to be commenced from Power Plant. In case of Interlinking lines the location numbers are to be started preferably from Older Substation.
- c) In case of LILO lines the numbering shall be commenced from the Tapping tower to the end substation and numbering shall be like 56/1, 56/2, 56/3 etc., if the tapping tower number is 56.
- d) In case of erection of intermediate towers the numbering for new towers shall be as 27A, 27B etc., (*without rewriting all the numbers of the existing towers to maintain a sequence. Rewriting / Reallocation of location numbers will lead to confusion and conflict of data.*) In case of diversion of lines also, if 3 towers are dismantling and 4 new towers are erecting, for the first three towers same numbers are to be allocated with suffix 'N' and for fourth tower the same procedure of intermediate towers to be followed. Ex. If the towers 25, 26, 27 are to be dismantled and four new towers are to be erected then the new towers are to be numbered as 25N, 26N, 27N and 27A.

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- e) Location Number plate is made of 16 gauge sheet of 325 x 270 mm size. The number is enamelled in Red on white enamelled background. The rear side of the plate shall be enamelled black.



- f) **The letters** represents first three letters of starting and ending place of line respectively.
Ex. DFM – PWR (DairyFarm to Pedawaltair line).
- g) For LILO lines Ex. LILO – KPT (LILO to Kothapeta).
- h) The number plate is fixed to the tower body at about 4 Mtrs above ground level. Wherever there are roads near the tower, these should be fitted on the face from which they can be seen from the road.
- i) The type of tower, extension, wind zone shall be mentioned / painted on the tower leg members as P+3(Z3) / DA+12(Z5) etc.,
- j) The voltage of the line will be known from the danger boards and the circuit number can be known from the circuit boards fixed on the towers.

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- II) Further to the above the TL & SS Division office, Sub-division and Lines Section offices shall invariably consist of the following information in Tower Schedule Data Book, which is essential at the time of emergencies / exigencies for restoration of the system.
- a) Line route giving geographic details such as location no. significant land marks near the location viz; rail, road, power line / P & T line crossings, river, streams, tanks, hill slopes, forests gardens, habitations, apartment names etc.,.
 - b) Tower foot resistance at each location.
 - c) Longitude and Latitude of the location obtained through GPS.
 - d) Technical details such as type of tower (P/R/S or LA / LB / LC / LD or DA / DB / DC / DD), extensions like +3, +6, +9 etc., type of foundation adopted, size and configuration of the conductors and earth wire, vibration dampers, arching horn and also the details of Wind Zone adopted. Base width at concrete level and hamper width of tower location wise to be mentioned.
 - e) Especially for old Transmission lines where the erected towers are not the regularly used towers, the details of towers with the specification number under which they were designed and Tower Drawing Number shall be mentioned in the Tower schedule data book along with the following details without fail.
 - 1) Route Map with angle points and all Kuccha / Pucca roads and air strips / Airports.
 - 2) Approved final / as built Profile of that line.
 - 3) Tower Schedule / Line Charts with details of all power line crossings, Road / River / Rly. crossings etc.
 - 4) Structural drawing for each type of Tower, Extensions, Stubs and template. Bill of materials for towers / extensions / templates /Stubs. Foundation drawings for all Towers and soils. Drawings of all Hardware and Accessories for Conductor and Earth wire along with drawing for compressor dies. Sag-Tension chart for Conductor and Earth wire. Drawings of any Special towers, Special structures or Special foundation.

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- III) Maintaining of Structural drawings and BOMs of Towers/Stubs/extensions/templates of all the types of towers existing in their jurisdiction both in hard copy and soft copy shall be made mandatory to TL & SS division/sub-division/section offices **so as to make use of them at the time of emergencies to minimise the break down rectification time.**

The above instructions are to be followed with immediate effect. All the Chief Engineer / Zones and Superintending Engineer /TLC, TL&SS are to communicate these instructions for strict adherence and they are requested to monitor the above in their field inspections.

Encl:- Format for Tower Schedule Data Book

Sd/-
Mohd. Anwaruddin
DIRECTOR
Grid, Transmission & Management

To

All the Chief Engineer / Zone

Chief Engineer / Construction-I, Construction-II, Lift Irrigation, 400kV

Chief Engineer / Transmission for follow up & Pursuance

All the Superintending Engineer / TLC, 400kV & TL & SS Circles.

// FORWARDED BY ORDER //

DIVISIONAL ENGINEER
DESIGNS & AUTOMATION

FORMAT

TOWER SCHEDULE DATA TO BE MAINTAINED BY TL & SS WINGS FOR EACH LINE

Name of the Line :

Wind zone

Source Substation:

Terminating Substation:

If LLO line, the details of Main Line and Tapping location and Circuit No. made LLO:

Main Line from: _____ To _____ Tapping Location _____ Circuit No. for which LLO done: _____

Sl. No.	Location No.	Tower type	Extension	Tower base width & Hamper width	Span in mtrs.	Land Mark if any	Longitude & Latitude	Crossings if any	Foundation type	Arcing Horns details	Vibration dampers details	Details of Drawing available for				Tower Footing resistance			
												Dies	Tower & Ext.	Stubs	Temp		Founda tion		