

QUESTIONNAIRE FINALIZED BY THE RAILWAY BOARD VIDE THEIR RESEARCH DESIGNED AND STANDARDS ORGANIZATION SIMLA'S LETTER NO.CW/SE/18/1 DATED 23.09.1967.

Crossing of Railway track by ..... volts Transmission line underground/overhead electric crossing between Mast No..... between station ..... on .....Section.

S.N.	Questionnaires Rly. Board Committe	Answer by the owner of the crossing
A)	Crossing Rly. Track	
1.	Situation of Crossing	
a)	Name of station on either side	
b)	Name of nearest Rly. Station and their distance from Crossing.	
c)	Telegraph Pole Nos on either side of crossing	
2.	Site plan on tracing cloth showing location of crossing with Rly. Boundaries in reference to Rly. Kilometer and telegraph poles or electric erection in area along with detail plan required vide item no.28(below)	
3.	Does the transmission lines cross the railway tracks at right angle. If not illustrate the angle by means of a sketch.	
4.	The length of the span at the crossing stage, the span on either side of crossing	
5.	In the event of transmission line deviating at any of the support of the crossing requiring one of the structures to be corner structure .State angle of such deviation.	
6.	The number ,size and material of the conductor and wire crossing the track describing each separately as under:	
i)	Phase	
ii)	Neutral earth	
iii)	Bearer and guard crossing wire showing the desperation b means of sketch.	
N.B.	a)No conductor in the crossing span shall have a less breaking stress than 1237 lbs. in the case of copper wire being equivalent to a maximum of 8 SWG	
	b)all guards wire shall be of galvanized steel or copper weld not less than the following sizes cross wire no. 10 SWG.	
7.	For bear of wire no.s SWG for wire all stay wire shall be galvanized steel or not less than 4 SWG	
8.	Indicate whether the propose guard is to be restricted to the crossing span or it continuous over the abdicant span.	
9.	State system of supply (i.e voltage frequency and No. of phase as 4000volts 3 phase DG 460 volts 3 wires) whether neutral is earthed or not, height of structure above ground and below ground separately and give detail of foundation showing the following	
i)	No.& size of stays attached to pole with their angles	
ii)	Depth of poles below ground level in fact	
iii)	Material and size of cross arms for conductor	
iv)	Material and size of cross for guard wires	
v)	Breaking loan for poles rails or towers	
	Height above ground level	
i)	The lowest conductor on insulator	

ii)	Guard bearer wires on bracket	
11.	Height of the rail level above ground measured at the above fact of the structures.	
12.	Give the limit of minimum and max sag at maximum sags between which the minimum copper and a steel wire of the cross will be maintained.	
13.	Clearance under maximum sag conditions between rails level and the lowest level conductor and between rails level and lowest guard wire.	
14.	N.B state if box guarding in providing in case of adoption of an earthed neutral system	
a)	State the breaking tensile strength of steel wire used for guard on earthed in tones per sq cm.	
b)	State breaking loan of conductor	
15.	The approximate distance of each of the structure to the nearest rail of the track measured at the right angle of the track.	
N.B	The structure for the purpose will include its formation stay rods and foundation for roads.	
16.	In the event of live conductor phase within the distance of 15 ft. or any Railway structure ,give exact minimum clearance (minimum distance separately for which approval of C.E.I is required to be maintained.	
17.	Whether the poles are earthed in railway boundary	
a)	Outside the station limits and this should be indicated in the drawing	
b)	Inside the station limits and this should be indicated in the drawing	
18.	Are the structures created with Railway boundary provided with approval anti-climbing devices and warning notices (required when the voltage exceed 6.50 volts)	
19.	State the tensile strength and dimension of the steel used for construction of each member of the supporting structure. The supporting structure are be noted must be approved design in conformity with code of practice for use of structure steel in general building construction.(IS 800-1956)	
20.	Give size and type of bracket used for the crossing arms as well as the guard wires.	
a)	The facilities for checking of the design of the structure. State the dates assumed for the following and also furnish complete design calculations for the supporting structures including foundations thereof.	
b)	Wind pressure in KG/sqcm.	
c)	Wind load on conductor guard and cracks in the crossing span	
d)	Wind load on conductor guard etc. on the adjustment span.	
e)	Wind load on structure.	
f)	Unbalanced pull due to guard wires.	
g)	Unbalanced pull due deviation of Transmission Line.	

h)	Total load on each structure due to (b) (c) (d) and (f) above.	
i)	Total load on each structure due to (b) (c) (d) and (f) above.	
22.	Is each structure of the crossing span independently earthed by means of earth plates?	
23.	If each structure guard back in there directions(guys will be neglected in calculation , the strength of the structures)Give the size and material of guy wire used(7/8 SWG steel wire required)	
24.	If the guard is not provided , is the Transmission line protected by a device to instantaneous isolation in the case of ay breakage or fault in the line.?Give details.	
25.	With the arrangement referred to vide item no. 24 above, are the insulator in the duplicate, as required by the regulations.	
26.	Type of insulators used.	
27.	State the method of maintenance to be employed to ensure the following pretension.	
i)	From overhauling or decaying tree which might fall on the line.	
ii)	To reduce the hazard of life and property.	
iii)	Inference with Railway communication. The required clearance between Telecommunication-lines and those erected by the earthed will be laid at max, sag distandle intimated by PTCC authorities.	
iv)	Supporting structure including guys from the danger of being stuck by moving load vehicles pass not arise.	
28.	Drawing on tracing cloth showing details drawing of crossing, disturbances to railway, Road , ground or attachment that may be necessary as well as if the crossing is outside or inside the station limits.	
29.	Whether the proposals confirm to the regulations governing the placing of overhead Electric Transmission lines and under ground cables across Railway tracks publication no. RRS-109/W-500(revised).If not specify the deviation there from.	
30.	Where all permanent structures and the crossing supporting structures inclusive of all guys wire have been efficiently earthed and separate earth provided at each poles of tower. The earth resistance of all structure and stay wire will not be more than 5 ohms.	
31.	The feactors of safety and conditions with all conductors and other wires bracket in the span adjacent to the railway span and under the max. loading conditions are guaranted as under:	As per Norms

S.N.	Description	Factor of safety	Basis	Guaranteed F.O.O's
a)	Conductor & Earth wire	Not less than three	Breaking	N.A
b)	Insulators	Do	Breaking load for & elastic limits conductor,	N.A