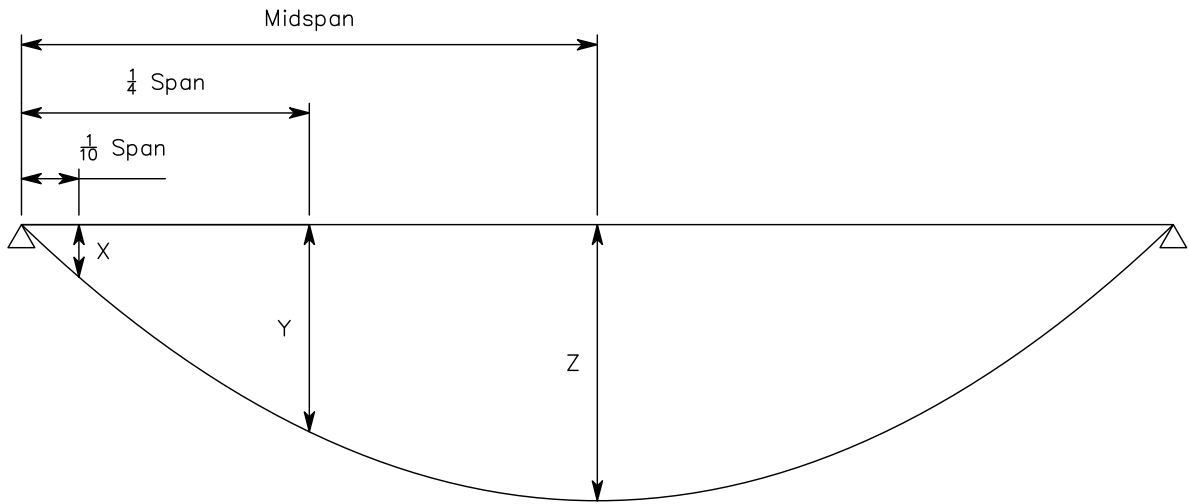


The elevation of TVA's wire at its lowest sag (highest operating temperature) is used when determining the crossing wire's allowable elevation. Field measurements of TVA wire elevations cannot be used to measure clearances to proposed crossings.

The figure below shows the calculated sag for 954 45/7 ACSR @ 9000# NESC 250B Medium District design tension for level spans at various lengths and temperatures. Sags varies for different conductor sizes, tensions, conductor types, lengths of adjacent spans, attachment elevations, etc., but the concept of sag versus temperature & span length is illustrated.

Because of this vertical travel with temperature change, crossings near the midspan of TVA's transmission lines should be avoided unless the profile of ground is decidedly favorable, such as when crossing deep valleys.



SAG TABLE

Span Length		15°F	60°F	120°F	212°F
250'	X	0.4	0.8	1.4	2.2
	Y	0.9	1.6	3.0	4.6
	Z	1.2	2.2	3.9	6.2
500'	X	2.0	2.8	3.8	5.1
	Y	4.2	5.8	7.9	10.7
	Z	5.7	7.8	10.6	14.2
750'	X	4.9	5.9	7.1	8.8
	Y	10.2	12.3	14.8	18.3
	Z	13.6	16.3	19.8	24.4
1000'	X	8.9	10.1	11.5	13.4
	Y	18.6	20.9	23.9	27.9
	Z	24.8	27.9	31.8	37.2
1500'	X	20.5	21.8	23.4	25.7
	Y	42.8	45.4	48.7	53.5
	Z	57.0	60.5	64.9	71.3
2000'	X	37.1	38.4	40.1	42.6
	Y	77.2	80.0	83.5	88.7
	Z	102.9	106.5	111.2	118.1