

**RULES GOVERNING THE
JOINT USE OF POLE LINES
AS ADOPTED BY
THE PACIFIC TELEPHONE AND TELEGRAPH COMPANY
(KNOWN AS AMERICAN TELEPHONE & TELEGRAPH COMPANY
SPECIFICATIONS NO. 2051)**

IN EFFECT JANUARY 1ST, 1908

Exhibit A

JANUARY 31, 1913.

RULES GOVERNING THE
JOINT USE OF POLE LINES
AS ADOPTED BY THE PLANT DEPARTMENT OF
THE PACIFIC TELEPHONE AND TELEGRAPH COMPANY.

The object of this appendix is to incorporate the following paragraphs as a part of these specifications.

Replacing Section XX.

Excepting where otherwise specified, every electric light and railway line wire and connecting wire shall be covered with at least a standard double braided weather-proof insulation.

Replacing Second Paragraph of Section I.

Where the crossarms carrying the electric light wires are located above the crossarms carrying the telephone wires, the electric light wires carried thereon shall be of hard or medium soft drawn copper wire. The size of wire provided for shall not be less than specified below:

CLIMATIC CONDITIONS		Minimum Size of Wire that may be used
In localities where sleet and snow are encountered		No. 6 B. & S. Gauge
In localities where sleet and snow are encountered and the voltage is 250 or less		No. 8 B. & S. Gauge
In localities where no sleet and snow are encountered and the minimum temperature is not less than 25 degrees above zero and the maximum wind velocity is 50 miles per hour or less		No. 8 B. & S. Gauge
In localities where no sleet and snow are encountered and the minimum temperature is not less than 25 degrees above zero and the maximum wind velocity is 50 miles per hour or less, where the voltage does not exceed 250		No. 10 B. & S. Gauge

INTRODUCTION

These specifications shall be understood as applying to poles jointly used by telephone wires and attachments, and electric light and power wires and attachments of character and voltages to be hereafter defined and limited.

For the purposes of these specifications the terms Electric Light Wires, Electric Light Lines, Electric Light attachments, fixtures, poles, property or service shall be taken to include both Lighting and Power systems within the class to be defined; and the term Lighting Company, or Electric Light Company, shall be taken as referring to the Company owning or operating such systems.

II

LINE WIRES ON CROSS ARMS

All line wires on poles jointly used shall be carried on insulators and pins on wooden cross-arms and not on brackets; insulators to be of a type suited to the service of the company whose wires they support, and of a type to secure the service of the other company against injury in so far as practicable; excepting that telephone lines in aerial cable or in insulated wire may be carried upon a suspension wire attached to the pole as provided for in article X; and excepting that telephone wires for local distribution to subscribers' stations may be carried on special fixtures, either upon cross-arms or attached directly to the pole, provided that where such telephone fixtures are below electric light wires or attachments the telephone bridle wires shall be insulated with a standard rubber compound, or its equivalent, and covered with at least one thickness of braided or woven covering; and provided further, that such telephone wires and fixtures shall not obstruct the proper occupancy and use of the pole by the lighting company as secured by the succeeding articles of this specification.

III

ELECTRIC LIGHT LINE WIRES TO BE ABOVE TELEPHONE LINE WIRES

Electric light and telephone wires shall not be attached to the same cross-arm.

The wires and attachments of the Lighting Company shall be carried above the wires and attachments of the Telephone Company, and the wires and attachments of the Telephone Company shall be carried below the wires and attachments of the Lighting Company; excepting as hereinafter specially provided; and excepting that by mutual consent in particular instances the reverse position may be employed; the proposal and consent for such reversal of position to be in writing and to be approved by an officer on the part of each company.

IV

SPACE BETWEEN ELECTRIC LIGHT CROSS-ARMS AND TELEPHONE CROSS-ARMS

One standard pole span shall be left vacant between the nearest cross-arms occupied by the Lighting Company and by the Telephone Company, respectively; and in every case a vertical distance of not less than forty inches shall be provided and maintained between the wires and connections of the Lighting Company and the wires and connections of the Telephone Company excepting that cables, service wires, connecting wires and ground wires may be run vertically upon a pole when located and protected as hereinafter provided in Articles XII and XIII.

V

SIZE OF LINE WIRES

Where the cross-arms carrying the telephone wires are located above the cross-arms carrying the electric light wires, the telephone wires carried thereon shall be of hard drawn copper wire and of a size not less than No. 12 B. & S. gauge for a single wire and No. 14 B. & S. gauge for each wire of a twisted pair.

Where the cross-arms carrying the electric light wires are located above the cross-arms carrying the telephone wires, the electric light wires carried thereon may be of medium soft drawn copper and shall be of a size not less than No. 6 B. & S. gauge.

Either company may use for line wires material other than copper, provided that the wires made of such material shall have a mechanical strength not less than that of the copper wires specified above; but no iron or steel line wires shall be used by the company occupying the upper position on the pole.

VI

CLIMBING SPACE THROUGH THE WIRES

An unobstructed way or climbing space shall be provided and maintained upon the poles so that the employees of either company shall be able to ascend every pole with reasonable safety and convenience up to and through the wires, connections, attachments and structures of the company occupying the lower position on the pole, and up to the wires and attachments of the company occupying the upper position on the pole.

VII

SPACE BETWEEN ELECTRIC LIGHT POLE PINS

In the case of poles where electric light lines are carried below telephone lines or attachments a horizontal distance of not less than sixteen inches shall be maintained between the pole center and the nearest electric light line, thus providing a clear space of thirty-two inches in width for ascent of the pole through the electric light lines.

VIII

SPACE BETWEEN TELEPHONE POLE PINS

Where telephone lines are carried below electric light lines or attachments a horizontal distance of not less than twelve inches shall be maintained between the pole center and the nearest telephone line, thus providing a clear space of twenty-four inches in width for ascent of the pole through the telephone lines.

IX

"REVERSE WORK," SOMETIMES CALLED "BUCK-ARM" OR "T" ARM CONSTRUCTION

In the case of corner poles, or of junction poles, where additional cross-arms out of parallel with the normal cross-arms are required for changing the direction of the line or for branch lines, such construction is termed "Reverse Work" construction.

Where reverse work construction is employed by the company occupying a position on a pole underneath wires or attachments of the other company, the wires, attachments, connections and structures occupying the lower position shall be so located, constructed and maintained as to provide and keep open one side of the pole and next to the pole a vertical climbing space the lateral dimensions of which shall include a square of not less than thirty inches on a side; it being understood that the pole itself may be included within the climbing space so measured.

AERIAL TELEPHONE CABLE OR INSULATED TELEPHONE WIRES ON A MESSENGER WIRE

Suspension or messenger wires carrying either aerial telephone cable or insulated telephone wires, may be carried on supports attached directly to the pole.

Where such messenger wire is above the electric light lines the messenger wire shall be placed upon the pole at a vertical distance of not less than four feet above the upper cross-arm occupied by the lighting company.

Where the messenger wire is below the electric light lines it shall be placed upon the pole at a vertical distance of not less than four feet below the lowest cross-arm occupied by the lighting company.

Where the messenger wire is below the electric light lines and at a distance not exceeding six (6) feet from the lowest cross-arm carrying those lines measured vertically to the messenger wire at the point of support, the Telephone Company shall place upon the pole immediately above the messenger wire and substantially parallel but not in contact therewith a standard wooden cross-arm not less than four (4) feet in length, which shall be fastened at its center to the pole by the equivalent of at least two lag bolts.

Where telephone wires or fixtures are below electric light lines or attachments, in no case shall a messenger wire and its suspended cable or wire be so placed and maintained as to obstruct the climbing space provided for the employees of the Lighting Company through the telephone lines.

XI

LATERAL CONNECTING WIRES TO BE RUN ON CROSS-ARMS

The line cross-arms of both the electric light and the telephone companies shall be attached upon the same side of the pole, the side of the pole occupied by these cross-arms being considered and termed the face of the pole, and the side opposite to the cross-arm being termed the back of the pole.

In the case of a pole which is double cross-armed so that it shall not evidently appear which is the normal face of the pole, one side of the pole shall be selected and designated by agreement and shall thereafter be treated as the face of the pole for the purpose of these specifications.

Connections to telephone lines or to telephone apparatus upon a pole may be run laterally across the pole provided that when such telephone connections are below electric light lines, connections or attachments, the telephone wires crossing the poles shall be run horizontally along a telephone cross-arm and attached either to the outer or to the under face of the cross-arm so as to leave the back of the pole clear for climbing.

Connections to electric light lines or to electric light apparatus upon a pole may be run laterally across the pole provided that where such electric light connections are below telephone lines, connections or attachments, the electric light wires crossing the pole shall be run horizontally along an electric light cross-arm and carried on insulators on pins or brackets on the face of the cross-arm and at least six inches away from the pole so as to leave the back of the pole clear for climbing.

XII

ELECTRIC LIGHT WIRES OR CABLES RUN VERTICALLY UPON A POLE

Connections to electric light lines for supplying service, or for street lamps, transformers, fuses, switches, or lightning arresters, or connections to underground wires, and in general connections forming a part of the electric light system, may be run vertically upon a pole, and, if necessary, through telephone wires; provided, such electric light wires and connections are so constructed, placed and maintained as to conform to the following requirements.

Where such electric light wires or connections are run through telephone lines the connections from a point not less than forty inches above, to a point

not less than forty inches below the telephone lines shall be made with twin conductor wires or cable, each conductor being insulated with a standard rubber compound or its equivalent of the thickness as specified below, and each pair of wires being covered together by at least one thickness of weather-proofed, braided or woven covering.

If the twin conductor cable carries a current of a potential of 300 volts or less, it may be carried on porcelain cleats screwed to the pole. If the twin conductor cable carries a current of a potential exceeding 300 volts, it shall be either carried down the pole through a conduit of solid insulating material, the conduit being securely attached to the pole; or it shall be carried down the pole taut and fastened upon standard insulators, which shall be supported upon pins or brackets so constructed and applied that the cable shall be firmly held at a distance of not less than five inches from the surface of the pole.

The thickness of the rubber insulation to be used on the connecting wires herein provided for shall be determined as follows:

Insulation for voltages not exceeding 600:

B. & S. gauge	Thickness of insulation
No. 8 or less	3 64 inch
No. 7-No. 2	4 64 inch
No. 1-No. 0000	5 64 inch

For voltages exceeding 600:

Up to 500,000 c. m.	6 64 inch
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Where such electric light wires or connections are run vertically upon a pole below telephone wires or attachments, but not at any point within a distance of forty inches from the telephone wires or attachments, such electric light wires must either be insulated and supported as above described, or must be carried on standard insulators and pins upon a wooden cross-arm, and so placed and maintained that the electric light wires shall not come within a distance of less than twenty inches from the center of the pole.

Lead sheathed cable shall be inclosed within a pipe or conduit of solid insulating material wherever such cable shall be run upon the pole between a point not less than forty inches above the highest telephone wire, connection or attachment, and a point not less than six feet below the lowest telephone wire, connection or attachment; excepting vertical telephone connections or wires which are protected and run in accordance with Article XIII.

Ground wire or wires throughout the entire length of attachment to the pole shall be enclosed within an insulating conduit or otherwise effectually insulated and protected.

All cables, wires, connections and conduits forming a part of the electric light system and carried vertically upon a pole within the terms of this article shall be placed upon the semi-circumference of the pole on the cross-arm side or face of the pole, it being always further provided, that poles jointly used and having such vertical attachments shall be furnished with pole steps, and that no vertical attachment shall be so placed as to interfere with the use of the pole steps. Where vertical attachments of the lighting company pass telephone cross-arms, they shall be run behind the telephone cross-arms, and not across the face of such arms.

XIII

TELEPHONE WIRES OR CABLES RUN VERTICALLY UPON A POLE

Connection wires, service wires, ground wires or lead sheathed cables forming a part of the telephone system, may be run vertically upon a pole, provided they are constructed, placed and maintained in accordance with the following requirements:

The telephone connection wire or service wire throughout its length of attachment upon the pole shall be insulated with a standard rubber compound, or its equivalent, and covered with at least one thickness of weather-proofed braided or woven covering.

Lead sheathed cable shall be inclosed within a pipe or conduit of solid insulating material wherever such cable shall be run upon the pole between a

point not less than forty inches above the highest electric light wire, connection or attachment, and a point not less than six feet below the lowest electric light wire, connection or attachment; excepting vertical electric light connections or wires which are protected and run in accordance with Article XII.

Telephone ground wires throughout the entire length of attachment to the pole shall be enclosed within an insulating conduit or otherwise effectually insulated and protected.

All cables, wires, connections, and conduits, forming a part of the telephone system and carried vertically upon a pole within the terms of this article, shall be placed upon the semi-circumference of the pole at the back of the pole away from the cross-arm side of the pole, it being always further provided, that poles jointly used and having such vertical attachment shall be furnished with pole steps, and that no vertical attachments shall be so placed as to interfere with the use of the pole steps. Where vertical attachments of the Telephone Company pass electric light cross-arms, they shall be run behind the electric light cross-arms and not across the face of such arms.

XIV

ELECTRIC LIGHT TRANSFORMERS AND OTHER APPARATUS

Transformers belonging to the electric light company and connected with the electric light system, may be placed and operated upon poles jointly used, provided such pole transformers shall be installed and maintained in accordance with the following requirements:

Transformers shall be of a standard type, in which the containing box is effectually insulated from contact with the inclosed coils and their connections; it being understood that in case a ground is employed upon the secondary circuit, it shall be permitted also to ground the transformer box.

In no case shall the transformer, or its parts or its connections, be located within a vertical distance of less than forty inches above or below telephone lines, connections or attachments, excepting the specially protected telephone connections, ground wires, and cables run vertically upon a pole in accordance with Article XIII.

Where the transformer is located upon a pole below telephone wires and attachments, the transformer shall be supported upon cross-arms belonging to the lighting company.

Where the transformer box or any of its parts located upon a pole below telephone wires or attachments, comes within a horizontal distance of twenty inches from the center of the pole, the transformer shall be placed upon the outer face of the cross-arm away from the pole, leaving the space at the back of the pole free for the ascent of the employees of the telephone company.

Where the transformer comes within a horizontal distance of twenty inches from the center of the pole, and at the same time the top of the transformer box is less than a vertical distance of six feet below telephone wires or attachments, the electric light company shall place upon the pole, and firmly fasten thereto immediately above the transformer and not in electrical contact therewith a wooden cover which shall prevent the employees of the telephone company from stepping or standing upon the transformer box, or its connections or metal parts.

Fuse boxes, lightning arresters, switch and cutout boxes, and similar apparatus of the lighting company when located below the telephone lines, connections or attachments, shall be installed upon the outer face of the electric light cross-arms away from the pole leaving the back of the pole free for climbing.

Where such electric light apparatus is located below telephone lines or attachments and within twenty inches from the center of the pole, it shall be of a type in which all live parts are covered and protected from accidental contact.

XV

TELEPHONE CABLE BOXES AND TERMINALS

Telephone cable boxes, terminal boxes or distributing boxes may be placed upon either side of poles jointly used, provided that the following conditions shall be fulfilled:

No telephone box shall be placed within less than forty inches from an electric light cross-arm.

Where the telephone box shall come below electric light wires or attachments, the side of the pole opposite to the box shall be kept free as the climbing space through the telephone lines, wires or attachments.

The lighting company shall not be prevented from occupying and using space for making its vertical attachments to the pole as provided in Article XII.

XVI

ELECTRIC LIGHT FIXTURES FOR STREET LAMPS.

Fixtures, hangers or booms for street lamps may be attached to poles jointly used, and street lamps operated upon either the arc or incandescent system may be maintained upon the same; provided the fixtures and lamps shall conform to the following requirements:

The fixtures shall be placed upon the street side of the pole.

No fixture nor any of its metal parts shall be allowed to encircle the pole. All braces, guys, standards or other metal parts of a fixture shall be restricted to the half of the pole towards the lamp, or to the half of the pole towards the electric light cross-arms.

No street lamp, nor fixture, nor any brace or guy therefrom, shall come within two feet from any telephone cross-arm.

The lamp and its electrical connections shall be effectually insulated from its supporting fixture. The insulation used shall be of approved mechanical strength, and shall be able to withstand, when wet, a high voltage breakdown test of a potential at least double that of the operating voltage of the circuit to which the lamp is connected.

No portion of any lamp shall come within a distance of twenty inches from the center of the pole.

XVII

GUY ON POLES JOINTLY USED

Every guy wire attached to a pole jointly used shall be insulated by the insertion of one or more strain insulators, according to its length and conditions, as follows:

One strain insulator shall be placed in every guy at a point between six and eight feet in horizontal distance from the pole; provided, always, that the insulator so located shall not be less than eight feet above the ground. In the case of short guys in which a point six feet from the pole would be less than eight feet above the ground, the strain insulator shall be placed eight feet in vertical distance from the ground.

A second strain insulator shall be placed in every guy which shall come within any of the following classes:

Head guys which run from one pole to the next pole of the line.

Guys which at any point pass over or under or are in any way exposed to possible contact with electric light or power wires, other than those carried upon the guyed pole.

Anchor guys.

Guys which are attached to a conducting support such as a rock, iron pole, bridge, or other metallic or conducting object.

Guys which are attached to a house or other building structure.

In every guy so described the second strain insulator shall be placed at a point between six and eight feet from the pole, stub, tree, rock, structure, anchor, or other object to which the farther end of the guy is attached; provided always, that the insulator so located shall be not less than eight feet above the ground. In the case of any guy in which a point eight feet from the object to which the farther end of the guy is attached is less than eight feet above the ground, the second strain insulator shall be placed eight feet in vertical distance from the ground.

In short guys in which the two insulators here required would be located at the same point or near each other, the two insulators may be coupled in series and put into the guy together.

All guys except anchor guys shall preferably be attached to non-conducting supports, and shall preferably be so placed and maintained that no part of any guy shall come within eight feet of the ground.

All guys which cross a roadway or footway shall be carried at an elevation of not less than eighteen feet above the crown of the roadway, and not less than twelve feet above the footway.

Every guy which passes over or under any electric wires other than those carried upon the guyed poles shall be so placed and maintained as to provide at all times a clearance of not less than two feet between the guy and such electric wire.

No guy shall be placed or maintained in contact with any other guy, nor in contact with a lead covered cable, suspension or messenger wire or ground wire.

Both the Lighting and Telephone Companies shall use their best endeavors to obtain and employ strain insulators having the following qualifications:

Mechanical strength equal to the tensile strength of the guys in which they are used.

Construction so designed that a rupture of the insulating material shall not result in parting the guy.

Insulating properties suitable to the voltages of the currents to which the guys are exposed.

XVIII

GUYS BETWEEN ELECTRIC LIGHT POLE AND TELEPHONE POLE

Any guy which runs from an electric light pole to a telephone pole or from a telephone pole to an electric light pole shall be treated as in Article XVII with regard to strain insulators, elevation and separation from wires, cables, messenger wires and from other guys.

No guy run by either company to a pole of the other company shall be so placed or maintained as to weaken or displace the pole of the other company.

XIX

RAILWAY ATTACHMENTS

(A.) Where poles are jointly used for telephone attachments and attachments of railway feeders, supporting or span wires, supporting brackets and line-apparatus used in connection with the overhead construction of Electric Railways, the attachments shall be made in accordance with the foregoing articles, wherever the same are applicable, excepting as modified by the following paragraphs, which refer specifically to poles jointly used by railway and telephone attachments.

Double pole line construction.

(B.) Where the railway construction is of a type in which the trolley wire is supported by spans attached to two, (2) separate lines of poles, and these two (2) lines of poles are to be used for the attachments of the lighting, railway and telephone companies, it is always preferable that the lighting power and railway lines should be carried on one line of poles, and that the telephone lines should be carried on the other line of poles.

Single pole line construction.

(C.) Where the railway attachments and the telephone attachments are carried on one and the same line of poles, the railway feeders and attachments shall occupy a position on the pole below that occupied by the telephone cross-arm. If the poles carry also lighting and power attachments, these shall occupy the upper position on the pole and above the telephone attachments, subject to the provisions of Article IV.

Spans and brackets.

(D.) Where span wires and brackets for supporting or holding trolley and guard wires are attached to poles jointly used, the attachments shall be made as follows:

The span wires and supporting brackets may be attached to the pole at a height convenient for the railway operation.

The span wires and brackets may be attached to the pole by bolts passing through the pole.

Every span wire and bracket supporting trolley wires shall be effectually insulated from the railway potential.

Feeders.

(E.) The railway feeders on poles jointly used shall be carried on cross-arms located on the pole approximately at the point of attachment of the supporting trolley span or bracket.

Where telephone attachments are located above such feeders, a horizontal distance of not less than twenty-four inches (24 in.) shall be maintained between the pole pins on the cross-arm carrying the railway feeders.

Distance to be maintained between telephone and railway lines.

(F.) On poles carrying railway attachments the lowest telephone cross-arm shall be at least two feet (2 ft.) above any part of the brackets or span wires supporting the trolley wire and shall also be above the nearest railway cross-arm by a distance not less than forty inches (40 in.).

Railway switches and line apparatus.

(G.) Signal boxes, switches, cut-outs and similar railway apparatus may be installed on the pole at the point necessary for convenient operation, provided that they shall not be installed in such a manner as to interfere with the employees of either company in climbing the pole or to prevent the installation of vertical runs, as described in Articles XII and XIII. When located below telephone lines or attachments, they shall be of a type in which all live parts are covered and protected from accidental contact.

Railway signal line wires run on jointly used poles and below telephone attachments, shall be installed so as to provide a climbing space through them of not less than twenty-four inches (24 in.).

Connecting wires to such railway apparatus, run down the pole, shall be insulated and shall be attached to the street side of the pole, and maintained at a distance of not less than five inches (5 in.) from the surface of the pole.

Telephone attachments on standard short railway poles.

(H.) Wherever poles used by the railway company are too low to permit, under the terms of this specification, the attachment thereto by the telephone company of cross-arms for carrying their wires, the telephone attachments which may be made shall consist only of twisted pairs, or a single telephone cable.

Where only one (1) such twisted pair is used, it may be carried on an insulator on the top of the pole, or on a side bracket.

Where more than one (1) twisted pair is carried along the line of poles, the pairs shall be bunched together throughout their length and attached at or near the top of the poles. In no case shall the pairs so carried exceed ten in number.

Where the telephone cable is attached to such poles, it shall not exceed one and one-half inches (1½ in.) diameter, and shall be placed at or near the top of the pole.

The attachment of twisted pairs or of telephone cables, as above, shall be so made as not to restrict the proper use of the pole by the railway company, and the railway company may use its standard methods of construction in installing its feeders, span wires, brackets, switches and any other appliances on such poles.

XX

INSULATION

Excepting where otherwise specified, every electric light and railway line wire and connecting wire shall be covered with at least a standard triple braided weather-proofed insulation.

XXI

INDUCTION AND LEAKAGE

In order to minimize as much as possible the disturbing noises to which telephone apparatus is subject, it is recommended that on poles jointly used

the possible effect of such influences should be given consideration by both the Telephone and Electric Light Companies in making their attachments thereto.

The Telephone Company shall use due diligence in the construction and arrangement of its lines, by transposition of its wires, and by any other available means not detrimental to its service, to preserve its lines from disturbing noises. Where the means available to the Telephone Company are not sufficient to make the circuits of the Telephone Company reasonably free from disturbances caused by the proximity of the Electric Light Company's lines the Electric Light Company shall endeavor by such means as are reasonably within its power, to reduce such disturbing influences.

The following points, relating to running of electric light wires, should be considered in connection with this subject:

Each circuit should retain the same relative position on pins and cross-arms throughout its course and should not jump from one set of pins to another set on the same cross-arm, nor from one cross-arm to another on the same pole.

Where the two or more wires of any electric light circuit are present on a pole, such wires should be run on adjacent pins, and wherever practicable such circuits should not embrace the pole.

In some cases transpositions in the electric light circuit will be of material aid in controlling the induction upon telephone lines.

Series lighting wires, especially of the alternating current type, should be placed at the greatest possible distance from telephone lines.

In any case, where by reason of length of exposure or other unavoidable conditions, the induction from any electric light line causes a material impairment of service upon a telephone line and where other available means are incapable of restoring the telephone service, then a wider separation between the electric light line and the telephone should be arranged for.

In the case of series lighting circuits, the special transpositions which must be placed in telephone lines in order to reduce the inductive disturbance require to be located with regard to the location of the electric lamps. It is important that the lamps once established should not be shifted except for necessary reasons, since a re-location of a lamp will often necessitate re-location in the transpositions of the telephone lines.

In the case of an alternating current series lighting circuit, where the two wires of the circuit are on the same lines or poles, it is important that the lamps should be uniformly distributed between both wires, since this tends to produce a balance of inductive conditions. In such a case also where the inductive disturbance remains severe, the conditions may be materially improved by transpositions placed in the lighting circuit.

XXII

CURRENT AND VOLTAGE

The character of current and the normal operating voltages of the electric lighting, power and railway circuits carried on poles jointly used, as provided for in the several articles of these qualifications, shall be only as follows:

Constant potential metallic circuits, not to exceed 5000 volts;

Alternating Current Series circuits, not to exceed 5000 volts;

Direct Current Series circuits, not to exceed 7500 volts;

Direct Current Railway circuits, not to exceed 700 volts.

XXIII

LIMITING ATTACHMENTS

Attachments should not be made by either company to the poles of the other company unless the conditions for any particular extension make such attachments necessary, but joint use of poles is always preferable to parallel or conflicting separate pole lines on the same side of a street, and the placing of separate lines of poles on the same side of a street should always be avoided.

In erecting poles or constructing overhead lines upon poles not jointly used each company should give careful attention to avoiding any possibility of contact or interference with the lines of the other company.

BOARD OF PUBLIC WORKS of the
CITY OF PALO ALTO

WITNESS:

L. H. Anderson

L. H. Anderson,
Director of Utilities.

G. P. Campbell

By

G. P. Campbell

G. P. Campbell, Chairman.

No. 167

1913