

FORM OF SURVEY AND REPORT USED BY

THE NEW YORK BOARD OF FIRE UNDERWRITERS,

BOREEL BUILDING, 115 BROADWAY.

No. ....

SURVEY AND REPORT OF ELECTRIC LIGHT EQUIPMENT,

In Premises of ..... No. ....

The lights are of the ..... patent. The dynamo machine has capacity for ..... lights, and is located .....

When electricity is supplied from Central Station, state where wires enter and leave the building, .....; Distance from each other, .....; enclosed in ..... tube properly placed, with ..... "cut out" box, located on ..... story.

Are the outside wires on poles exclusively ....., or on building .....

	In Sub-Basement.	Basement.	1st Story.	2d Story.	3d Story.	4th Story.	5th Story.
Number of Arc Lights, -							
Number of Incandescent whole Lights, - -							
Number of Incandescent half Lights, - -							

Are all the arc lights provided with globes enclosed at base? .....

Are spark arrestors or wire netting required? If so, where? .....

Are the arc lamps provided with automatic switch? .....

Are the incandescent light wires provided with fusible safety catches at each branch connection? ..... If not, where? .....

What means are provided to call attention of person in charge of the dynamo electric machine to excessive flow of current? .....

WIRES.

Size of wire used..... How are they insulated?.....

Are they fastened as called for in Standard?.....

Is the proper distance preserved between wires?.....  
and other conductors?.....

If not, are they rigidly secured and separated from each other, and from  
other conductors, by some solid non-conducting material of at least  
one-half inch in thickness?.....if not,  
state where and how insulated?.....

Is any portion of the conductors enclosed so that they cannot be  
inspected?..... Where?.....

Where they pass through walls, floors, etc., are they enclosed in proper  
tubes?..... Are all joints made in proper manner?.....

Is any portion of the circuit within building exposed to water?.....

Are the lamps and chandeliers properly insulated?.....

If not fully insulated, are the exposed parts protected by screen, or otherwise,  
from contact?..... Is any portion of the circuit grounded?.....

Do you know of any reason why a Certificate should not be granted for the  
use of these lights?.....

.....  
Inspector.

FORM OF CERTIFICATE AND STUB,  
USED BY THE NEW YORK BOARD OF FIRE UNDERWRITERS.

No. ....

New York, ..... 188

Premises, .....

To M. ....

Company, .....

Date of Inspector's Report, .....

No. of Report, .....

New York, ..... 188

No. ....

THIS CERTIFIES that the equipments of the .....

in premises No. .... this city,

are in full compliance with the Standard requirements of this Board,

adopted ..... as per In-

spector's Report, dated ..... and numbered .....

No alterations to be made in the manner of equipment without  
written permission from this Board.

.....  
Superintendent.

To M. ....

The following are the full Standard Requirements of the New York Board of Fire Underwriters, adopted January 12, 1882, and endorsed by the National Board of Fire Underwriters May 25, 1882.

### CAPACITY OF CONDUCTORS.

FOR ARC LIGHTS.—The conductor must have a weight per running foot at least equal to that of the wire (or parallel group of wires), constituting the main circuit of the magnetic regulator of the electric lamps, or of the armature of the machine employed, whichever of these is the largest.

FOR INCANDESCENT LIGHTS.—Wherever a connection is made between a larger and a smaller conductor at the entrance to or within a building, some approved automatic device must be introduced in the circuit of the smaller conductor, whereby it shall be interrupted whenever the current passing through it is in excess of its safe carrying capacity.

The safe carrying capacity of a wire is that current which it will convey without becoming painfully warm when grasped in the closed hand.

### INSULATION.

All wires, machines and lamps to be so mounted and secured as to insure complete and continuous insulation, with the exception of those parts (such as portions of the lamps or machines, for example) where insulation is impossible, and in this case accidental contact with exterior objects must be prevented by appropriate screens or the like.

In no case must "ground circuits" be employed, or any portion of the system be allowed to come into conducting connection with the earth through water or gas pipes or otherwise.

Exposed wires must be covered with at least two coatings, one of insulating material next the wire, of a thickness and material approved by the Board, and another outside of this, of a material calculated to protect the former from abrasion or other mechanical injury.

Where there is a possible exposure to water, the first or second coating must be impervious to that fluid.

Wherever electricity is carried into a building by conductors from an exterior source, a "cut out" must be provided at a point as near as possible to the entrance to such building.

The outgoing and returning wires for Arc Lights should enter and leave each building at points at least one foot from each other.

The wires passing through the exterior walls of a building should be firmly incased in substantial tubes of non-conducting material, not liable to absorb moisture, and placed in such a manner as to prevent rain water from entering the building along the wire.

In running along walls and the like, wires should be rigidly attached to the same by non-conducting fastenings (the wires themselves being well insulated), and should not be hung from projecting insulators in loose loops.

All wires should be placed at a distance of eight inches for Arc Lights and two and one-half inches for Incandescent Lights from each other, and wherever they approach any other wire or conducting body capable of furnishing another circuit or ground connection, they must be rigidly secured and separated from the same by some continuous solid non-conductor, such as dry wood, of at least one-half inch in thickness.

Wherever wires are carried through walls, floors or partitions in buildings, they must be surrounded by a special insulating tube of substantial material.

All joints in wires must be made in such a manner as to secure a perfect and durable contact. Continuous wires (without joints) to be used as far as possible.

### GLOBES.

Arc Lights must be protected by glass globes, enclosed at the bottom to prevent the fall of ignited particles, and where inflammable materials are present below the lamps, a wire netting must be added to keep the parts of the globe in place in case of its fracture during use.

All broken and cracked globes to be at once replaced by perfect globes.

In show windows and other places where inflammable materials are near the lights, spark arrestors shall be placed at the top of the globes.

### AUTOMATIC SHUNT.

Wherever a current of such high electro-motive force is employed, that if concentrated on one lamp of the series, it would produce an arc capable of destroying or fusing parts of such lamp, an automatic switch must be introduced in each lamp, by which it will be thrown out of circuit before the arc approaches any such dangerous extent.

Companies furnishing electricity from central stations must enter into an agreement with the New York Board of Fire Underwriters, binding themselves to test their lines for ground connections at least *once* every day (and preferable three times per day), and to report the result of such tests to the Board weekly.

Means by which those in charge of the dynamo-electric machines will be warned of any excessive flow of current, or means whereby the same will be automatically checked, must in all cases be provided.

It is earnestly recommended by the National Board of Fire Underwriters that local boards, having jurisdiction in places where this hazard has been, or is likely to be, introduced, adopt the

above standard, using the following form of endorsement for the privilege wherever granted :

Privileged to use Electric Lights in the above mentioned premises when the entire equipment is in full compliance with the standard of the New York Board of Fire Underwriters, adopted January 12, 1882, and a certificate is obtained from ..... Board of Fire Underwriters to that effect.

It being understood that no alterations shall be made in the equipment after certificate is issued, without written consent from said ..... Board of Fire Underwriters.

Attached to Policy No. ....

In places having no local board inspectors, it is recommended that the Underwriters there select some electrician to make thorough inspection of electric equipments, and certify to same when found in full compliance with standard ; and it is also recommended that before any inspection is made, it shall be required of the Electric Company introducing the equipments, that they shall furnish a written statement to the effect that the entire equipment is finished, and that the same has been inspected by them, and found to be in full compliance with the Underwriters Standard Requirements.

Such statement from the Electric Company, frequently saves the Insurance Inspector the necessity of a second visit.

The following form of permit is recommended where the examination is made by other than Local Board Inspectors, viz. :

....., Electrician, having filed a certificate with ..... , Insurance Agent, certifying that the entire electric equipment in the above mentioned premises is in full compliance with the standard of the New York Board of Fire Underwriters, adopted January 12, 1882, privilege is hereby granted to use Electric Lights in said premises.

It being understood that no alteration shall be made in said equipment without the written consent of said ..... , Electrician, and of this Company.

..... Agent.