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6-1-1897

### Report from C.O. Mailloux to Ogden Goelet, Esq., page 1

C. O. Mailloux

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C. O. MAILLOUX,  
CONSULTING ELECTRICAL ENGINEER,  
AM. TRACT SOCIETY BLDG.,  
150 NASSAU ST.

CONCERNING ELECTRICAL WORK

TELEPHONE, NO. 3985 CORTLANDT.

AT Goelet Residence - Newport, R.I.

*Original Copy.*  
*[Signature]*

NEW YORK, June 1st, 1897

REPORT TO OGDEN GOELET, ESQ.,

On the

Condition of the Electric Light Cables for Supplying  
Electric Current to his Residence at Newport, R. I.

OBJECT OF  
REPORT:

The object of this Report is to supplement the Report of March 19th, 1897, and to note the present condition of the Primary Cable, recently put in ~~ky~~ order by The General Electric Company.

TIME OF  
TEST:

The Cables were tested on May 26th.

CONDITIONS  
OF TESTS:

These were substantially as stated in the previous Reports, and need not be repeated in this Report.

The weather was sunny and clear, but somewhat windy, during the entire day. The temperature of the earth was 54 degrees Fahrenheit, (12.22 degrees Centigrade).

The correction factor for variation of insulation due to temperature was 0.828.

The length is 2850 feet, or 0.54 mile.

The correcting factor for "net insulation" (per mile) is therefore 0.447.

CABLES:

The Cables are fully described in the previous Reports.

The Primary Cable had been put in order recently, by the General Electric Company, and the defects pointed out in my Report of March 19th, 1897, had been removed by the said concern.

As the insulation guarantee of the General Electric Company expired in March, it was important to ascertain the exact condition of the Cables.

The Secondary Cables were also tested, as a matter of interest.

RESULTS:

The following Table gives the results of the Tests of Primary Cable.

AT.....

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PRIMARY CABLE TESTS.

(a) Insulation between the two Conductors.

READINGS	ACTUAL INSULATION	NET INSULATION
Highest	5625 Megohms	2276 Meg.pr.ml.
Lowest	3185 "	1416 " " "
Average	4886 "	2187 " " "

(b) Insulation between Inside Conductor & Ground.

Highest	8472 Megohms	3788 Meg.pr.ml.
Lowest	6130 "	2740 " " "
Average	7250 "	3240 " " "

(c) Insulation between Outside Conductor & Ground.

Highest	14225 Megohms	6360 Meg.pr.ml.
Lowest	6442 "	2880 " " "
Average	9668 "	4320 " " "

(d) Between both Conductors together & the Ground.

Highest	5100 Megohms	2280 Meg.pr.ml.
Lowest	2532 "	1132 " " "
Average	3514 "	1572 " " "

ANALYSIS OF  
RESULTS:

It would seem that the leakage noted in previous Reports must have been due mostly to defects at the couplings, at joints and ends.

The following Table shows the comparison with the average "net" insulation values, obtained at all the previous tests:

(a) Insulation between Conductors.

June, 1896	July, 1896	March, 1897	May, 1897
702	112	329	2187

(b) Insulation between Inside Conductor and Ground

467	131	35.1	3240
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(c) Insulation between Outside Conductor and Ground

June, 1896	July, 1896	March, 1897	May, 189
2450	156	676	4320

The comparison shows that the insulation is now more than six and a half times higher than it was at the time of the previous test, (March 11); and that it is even higher than it was in 1895, after the repairs then made. I therefore pronounce the Cable in very satisfactory condition.

SECONDARY  
CABLES:

A hasty test was made of these (3) Cables, all connected together, to measure their combined insulation.

The average value obtained was 27.5 megohms. No attempt was made to eliminate surface "end-leakage." This figure therefore gives the "working insulation," under the actual conditions of practical service.

I consider it an eminently satisfactory result, under the circumstances.

CONNECTIONS:

The Cables have all been disconnected at both ends, to permit, or facilitate, the repairs, and the tests which have had to be made since last fall.

If the house is to be occupied this season, sufficient notice (about two weeks), and an order, should be given to the Newport Illuminating Company, to make the connections, and to do whatever work is required at the Converter-House, to put everything in perfect order. There are one or two of the Converter fuse-holders which have their glass covers missing or broken, and some of the switchboard appliances and connections need to be "brushed up" a little. The whole task will not be long or expensive; but it should be done properly, and not hurriedly or at the last moment.

RESPECTFULLY SUBMITTED,

*C. O. Mailloux*