

Marine (1897) Department.

G.O., No. 784 Mar

DATED 7-September 1897

[Despatch Abstract.]

Protection of Buildings from lightning: P. W. Prosser
Comdr. to officers concerned for guidance, letter from the
India Office regarding the system adopted in the Trinity
House Service for the — and on the subject of it being
being allowed to communicate direct with manufacturers
at home in regard to details of design and construction
of apparatus for lightning purposes, Comdr. to the
P. O. Officer

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13/8/97

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.
1281	836	Sec:	27-9-97				

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Buildings and Roads.
Civil Works.

READ—the following paper:—

From CLEMENT S. COLVIN, Esq., Secretary, Public Works Department, India Office, London, to the Secretary to the Government of Madras, Public Works Department, dated Whitehall, London, S.W., 30th July 1897, No. P.W. 1379.

With reference to the letter from the Government of Madras of the 23rd April 1897, No. 3, Marine, I transmit herewith, for the information of that Government, a copy of a letter * from the Trinity House describing the system adopted for many years in the Trinity House service for the protection of buildings from lightning.

* Dated 24th July 1897.

2. I am at the same time to enquire when the charts asked for in my letter of 10th July 1896, P.W. 1200/96, are likely to be received.

3. With respect to paragraph 3 of the letter from the Government of Madras, of the 8th April 1896, No. 3/245, Marine, I enclose an extract of a report by the Director-General of Stores, dated 21st May 1896, pointing out objections to Mr. Ashpitel being allowed to communicate direct with manufacturers in this country in regard to details of design and construction of apparatus for lighthouse purposes.

ENCLOSURES.

From CHAS. A. KENT, Esq., Trinity House, London, E.C., dated 24th July 1897, No. B. 2752.

Adverting to your letter of the 2nd ultimo, P.W. 998, and to previous correspondence on the subject of the protection of buildings from lightning, I am directed to inform you that this is a matter which has received much attention in the past from the Elder Brethren and their advisers, and the following system has now for many years been strictly adhered to in the Trinity House service:—

A main conductor, consisting of a half round bar of copper $1\frac{1}{2}$ inch diameter, is carried down the inside face of the wall of the tower, and from it branches are connected with every portion of metal work in the structure, commencing with the base of the lantern pedestal. The copper bar forming the conductor is obtained in the longest possible lengths, and these are joined by being half scarfed, tinned, screwed and sweated together in position, thus ensuring perfect continuity for the full sectional area. All connections with the various branches are similarly treated. The conductor terminates at the base of the lighthouse, where it is fitted to a copper plate 2 feet 6 inches square and $\frac{1}{2}$ inch thick, placed at least one foot horizontally from the building, and at a depth of not less than 15 feet. The utmost care is taken, when fixing the conductor, to ascertain that no defect occurs in the joints, and it is necessary for the conductors to be occasionally tested.

I am to add that this method of protection has proved most successful in the Corporation's service; and that Lord Rayleigh, the Scientific Adviser to this Board, who has recently had the subject under consideration, has expressed his concurrence in the existing system, and has stated that, in his opinion, it would be undesirable to introduce any change such as is suggested in the report accompanying your letter, having regard to the great uncertainty of result with which any such change must be attended.

Copy of extract from Minute by Director-General of Stores, dated 21st May 1896.

With regard to the suggestion in paragraph 3 to the effect that Mr. Ashpitel should be allowed to communicate direct with manufacturers in England in regard to details of design and construction, I may remark that experience has shown that such arrangements invariably lead to confusion and misunderstanding, and are moreover quite unnecessary, as the delay of communicating with the contractors through this department, as usual, would be very trivial. In the present instance such a course as suggested in the Madras letter would, I think, be impracticable having regard to the arrangements with the Trinity House. I may add that any proposed departures from approved designs should certainly be referred to the local authorities for consideration before they are actually carried out, and that this is the course usually adopted.

ORDER—No. 2340 W., dated 24th August 1897.

Communicated to the officers concerned for information and guidance.

2. The Executive Engineer, Lighthouse division, will expedite the charts called for in endorsement, No. 387 E., dated 5th August 1896.

(True Extract.)

[Signature]
Under Secretary to Government.

To Superintending Engineers.

- " the Consulting Architect to Government.
- " the Executive Engineer, Lighthouse division.
- " the Marine Department.

Exd. T. K. Narayana Aiyangar.

1897.

PUBLIC WORKS DEPARTMENT.

Recd.

Regd.

} 1897.

Enclosures

Spare copies

Memorandum, No. 3934 C., 22nd September 1897.

SEPTEMBER.

Lightning Conductors

Directing that all future estimates for — for public buildings should be based on the lines of the system adopted in the Trinity House service for the protection of buildings from lightning.

PUBLIC WORKS DEPARTMENT.

No. 3934 C., 22ND SEPTEMBER 1897.

MEMORANDUM.

The Chief Engineer has the honour to call the attention of officers of the Department to the letter from the Trinity House, communicated with G.O., No. 2340 W., dated 24th August 1897, and describing the system adopted in the Trinity House service for the protection of buildings from lightning. All future estimates for lightning conductors for public buildings should be based on the lines therein described.

(Signed) D. McNEIL CAMPBELL, Colonel, R.E.,
Chief Engineer.

To the Superintending Engineer, III Circle, in continuation of memo.,
No. 2037 C., dated 22nd April 1896, with enclosures.

- „ other Superintending Engineers.
- „ the Consulting Architect to Government.
- „ the Executive Engineer, Lighthouse division.

Marine Department.

BUILDINGS AND ROADS.
CIVIL WORKS.

Government {1897} of Madras.
PUBLIC WORKS.

Recd.

Regd.

} 1897.

Enclosures

Spare copies

G.O., No. 2340 W., 24th August 1897.

No. 784 Recd. 27 Sept 1897
Communicated to the

Princy Post Office.

AUGUST.

H. D. H. C.
M.

S.

The P. P. O.

Protection of Buildings from Lightning

Letter from the Secretary, Public Works Department, India Office, regarding the system adopted in the Trinity House service for the — and on the subject of Mr. Ashpitel being allowed to communicate direct with manufacturers at home in regard to details of design and construction of apparatus for lighthouse purposes, communicated, with remarks, to officers concerned for guidance.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Buildings and Roads.
Civil Works.

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ORDER—No. 2340 W., dated 24th August 1897.

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(True Extract.)

(Signed) D. McNEIL CAMPBELL, Colonel, R.E.,
Secretary to Government.

To Superintending Engineers.

" the Consulting Architect to Government.
" the Executive Engineer, Lighthouse division.
" the Marine Department.