ADDRESS COMMUNICATIONS TO
THE LIGHTHOUSE INSPECTOR
BUFFALO, N. Y.

DEPARTMENT OF COMMERCE
LIGHTHOUSE SERVICE

OFFICE OF INSPECTOR, 10TH DISTRICT
ROOM 304, FEDERAL BUILDING
BUFFALO, N. Y.

LIGHT DEC 12 1914 HOUSES

LIGHT FEB 1 1915 HOUSES

RH-WPD

Buffalo, N.Y.
Fog-Signal.

~~Hydrog.~~
~~Engr. Cons.~~
Mar. Engr.
Personnel
Accounts.
Contracts
~~Chf. Clk.~~
~~Dep. Comptr.~~
Comptr.

December 11, 1914.

Commissioner of Lighthouses;

The following report and recommendations are submitted in compliance with Bureau telegram dated December 2, 1914, in reference to complaints against the diaphone fog-signal at Buffalo Light Station;

From December 1 to 3, 1914, there was a very exceptional period of prolonged fog and thick weather which necessitated the operation of the signal for continuous periods aggregating 41½ hours between those dates. It will be seen by the following table that the operation for these three days approaches closely to the average monthly total since the installation of this fog-signal.

1914	Hours in operation
August	57-1/4
September	48-1/2
October	79-1/2
November	45-3/4
December 1-3	41-1/2

While there had been some complaints prior to December 1, this continuous sounding of the signal concentrated public attention to it and resulted in some concerted action against it. There is inclosed a clipping taken from the first page of the Buffalo Evening News of November 30, the nature of which was to invite criticism and stir up sentiment against the signal. As the result of this notice about 35 written complaints were received, also a number of telephone calls. It will be seen therefore that the number of specific complaints is very small compared to the population of the city. On the other hand I have no doubt that the signal has caused a considerable annoyance to a number of residents, especially to nervous people or in cases of illness, but noises in large communities are numerous and varied and must be expected.

In order to ascertain the sentiment of the marine interests, a circular letter, copy of which is inclosed, was sent to the principal lake transportation companies, vessel agents, tug lines and the Shipmasters' Association in Buffalo; also to the President of the Lake Carriers' Association at Detroit. In response to the invitation, about twenty representative vessel masters and officials of transportation lines met at my office at the appointed hour.

The consensus of opinion of these interests is

1. That the signal is none too loud as it is because under certain conditions of wind or weather the sound is deflected in direction and is consequently difficult for the mariner to pick up and locate.

2. That the signal is regarded with much favor by vessel pilots and is considered one of the most effective fog-signals on the lakes.

3. That the double blast should be retained because of its great value in distinguishing between the north and south entrances to the harbor, because it is easily picked up and is not liable to confusion with tug or harbor whistles. It is also claimed that the double blast renders it easier to fix the location of the signal with respect to the vessel.

4. That this signal is of direct benefit to all the shipping interests of Buffalo, which taken as a whole comprise possibly the greatest industry of Buffalo. That it is needed as a protection to lives and the vast commerce of the port, and it is sometimes a controlling factor in making an additional trip of a vessel possible.

5. That the interval between each cycle of blasts could be lengthened without materially decreasing the value of the signal as an aid.

While reducing the frequency of the blasts will probably have a good effect and remove some cause for annoyance, it is not believed this alone will stop the complaints. It would be a physical impossibility to operate this signal and prevent it from being heard in the city. There is a popular impression that some sort of a sounding board placed back of the instrument would accomplish this result. The practical effect of such an appliance is open to much speculation in view of results obtained in similar cases elsewhere. As the Bureau is aware, the diaphone has an iron megaphone-shaped resonator. This resonator is placed on the lake side of the lighthouse structure with its mouth facing up the lake. Much of the sound is therefore directed lakeward by the instrument itself and its position on the building. However, as the resonator vibrates in accord with the sound produced, thereby increasing its volume, sound waves emanate from all sides of the resonator. With a view to deflecting these sound waves as much as practicable, this office is considering

the placing of a conical envelope around the resonators for the purpose of making a practical test of the idea and the the good effect it may have in modifying to some extent the volume of sound spreading over the city.

The fog-signal will go out of commission in a few days for the winter season.

The following recommendations are therefore submitted to be effective at the opening of navigation, 1915:

1. That the characteristic be changed from a double blast every 20 seconds to a double blast every 40 seconds, thus:

Blast	1 sec.
Silent	1 sec.
Blast	1 sec.
Silent	37 sec.

2. That a conical envelope or sound deflector be placed around the resonators for the purpose stated above.

There are transmitted herewith several letters received from transportation companies in response to my circular letter. The return of these letters for the office files is requested. Newspaper clippings from local papers are also inclosed.

The letter dated November 27, 1914, from the Health Commissioner of the City of Buffalo, is returned herewith as requested.

House

BUREAU OF LIGHTHOUSES
Washington, January 4, 1915.

Returned to Lighthouse Inspector, Buffalo, N.Y., with statement that it has been decided to make no change in the characteristic of the sound of the diaphone at this time. Regarding sound deflector, see inclosed copies of letters, dated Dec.19, and 23, 1914, from 12th and 11th Inspectors, respectively, relative to experience in those districts with sound deflectors, in view of which give this matter further consideration and submit further report and recommendation in the premises, pending the receipt of which by the Bureau action as to type of deflector to be used at Buffalo will be deferred; the project for installing a suitable type of sound deflector at this station has the Bureau's approval. Papers returned herewith as requested in next to last paragraph of your above letter.