

## Tower Script

Important: Please open the doors if you are the first one in the tower, and close if you are the last one. Please check for moisture on the steps and dry them off as needed throughout the day.

Welcome all visitors.

- Guide them up the last few steps, through the trap door into the lantern. Advise of grab bar above their head on the left. Caution them about the low door of the lantern onto the gallery outside.
- Give them a minute to catch their breath.
- Alert them of any unusual conditions, like pending storms or stinging insects.
- Permit them time to view the panorama and take a couple pictures after your presentation.
- Please keep track of the time for each group of visitors. (8 to 12 min)

Begin the Script for the Tower

The Tower Height

1. The lantern floor is 57'4" high, plus the pedestal with the lamp makes it 65+ feet.
2. You can see approximately 9.4 miles to horizon on a clear sunny day.
3. Standing on the beach you can only see approximately 2.6 miles.
4. Canada is approximately 26 miles north, straight across the Lake Erie. At Budney Beach, it is 18 miles to Long Point, a sand spit, bird habitat similar to Gull Point.

The Tower Light

1. Presque Isle Light is a *working aid to navigation* and shines every night.
2. The present L.E.D. lamp emits flashes 360 degrees and holds the light within 2.5 degrees to create a strong straight beam of light. This limits the waste of light shining to the ground or the sky.
3. It is a 6-tiered, 10 watts in each "donut" and equals 60 watts of power, producing over 10,000 candela of light intensity that can be seen 13.5 nautical/15.54 statute miles away. (*A nautical mile is based on the circumference of the earth, and is equal to one minute of latitude. It is slightly more than a statute (land measured) mile (1 nautical mile = 1.1508 statute miles). Nautical miles are used for charting and navigating.*)
4. Its *characteristic* is a white light with three (3) seconds on and three (3) seconds off, which tells the travelers they are near the Peninsula in Erie, PA.
5. It is auto-controlled by a photo cell. It starts operating when the sun goes down and ceases operating at day break. (Cover the eye with your finger to make it come on) The light will come on during the day when storms are sufficiently dark enough.
6. The tower light is maintained and inspected by the Buffalo Coast Guard Station, a part of the 9<sup>th</sup> District, Great Lakes, USCG.

## The Fresnel lens

- 1) Augustin-Jean Fresnel, born in France, in the early 1800's developed the Fresnel lens, which is made of glass prisms that capture light from a single source in such an efficient manner, by reflecting and refracting (bending) light into a central beam. Fresnel lenses were used in lighthouses around the world because they provided the high intensity of light that mariners could see out over the water from a single burning lamp.
- 2) The Presque Isle Lighthouse used a 4<sup>th</sup> Order Fresnel Lens, similar to the one in the Lake Room or the one at the Maritime Museum.
- 3) Recorded in the Keeper's Log, a new 4<sup>th</sup> order lens was installed in 1882 with a clockwork mechanism that used a pulley and weights system, just like a grandfather clock, to rotate the lens.
- 4) The *characteristic* of the PILH beacon was an alternate white and red flash, with a 10 second pause between flashes. The red panels attached to the outside of the prisms, as shown in the picture, created the red flash.
- 5) One revolution was completed in 60 seconds. From any point of view, there was a flash of white, a 10 second pause, and then a flash of red. It would flash throughout the night in this same pattern, so it was given the nickname, *The Flashlight*.
- 6) Refer to the picture of the Fresnel lens posted in the tower.)
- 7) The complete history of the 4<sup>th</sup> order Fresnel lens, removed from this lighthouse in 1962, is still unfolding. We are looking for clues as to the location.

## The Fuel and Electric for the Tower Lamps

1. Although many different fuels were used in the lamps, by 1873 kerosene was the most widely used fuel, because it burned cleaner, brighter, and was cheaper than other fuels. It was very volatile, so it was stored in the Oil Shed for safety.
2. The tower light was a **one lamp** beacon, which burned approximately 5.25 ounces of fuel an hour. On the longest of nights in April or early December, no more than 2.5 quarts of fuel would be used in a night.
3. In 1949 electricity was installed in the tower, thus eliminating the need for a "keeper" to keep the light shining. The last keeper, Huntington, lost his job.

## The Road to the Lighthouse

- 1) With the coming of the automobile, a road was built on the peninsula to area known today as Waterworks as you saw in the picture in the Oil Room.
- 2) In 1927 the road was extended to the lighthouse on the north side of the lighthouse along the shore line of Lake Erie. (Point out the directions.)
- 3) By 1946 the fury of Lake Erie washing the road away on the north side and so it was built on the other side of the lighthouse where it is today.

### The Rubble Mounds

- 1) The Army Corp of Engineers, in 1989, constructed 55 rubble mounds along the north shoreline of the peninsula in an attempt to minimize erosion of the beaches. (Point out the #44 mound in front of the lighthouse.)
- 2) If you walk to the beach, you can see how the sand on this beach has been eroded and the water has moved in closer to the lighthouse. This happens when the lake does not freeze during the winter and when there were many storms with high winds.

### The Oil Shed

- 1) In June of 1898, construction workers assembled the steel walled oil shed that was used to store the supply of fuel for the residence and the tower lamps. As much as 6 months could be stored.
- 2) Take a look inside the brick interior at the ventilation holes near the floor and the center of the ceiling. This allowed the air to circulate and prevent the fumes from building up from the fuel that was stored inside for the lamps in the tower and residence.

### The Operations Center – The Garage (eliminate if time is running out)

- 1) The present garage will become the Operations Center in Fall 2017. The Center will house the gift shop, ticket sales, offices, and an area for maritime education.
- 2) Remind visitors to stop in the Gift Shop downstairs in the Parlor.

### The Tight Board Fence ( eliminate if time is running out)

- 1) The fence, installed in May 2017, is similar to the fence here in the early 1900's. It is designed to keep the sand from drifting toward the lighthouse during high winds. Look for the picture in the dining room downstairs on the wall near the parlor door.
- 2) The fence will eventually be painted white, once the wood cures.

### Important Notes to all Tower Guides

- 1) Tell **all** individuals to go down to the first landing backwards, like a ladder, the way they came up, facing the steps and holding on to the handle by the steps.
- 2) Keep in touch with the oil room when the group is descending, if you need relief or help in the tower, or if an emergency arises.
- 3) Ask the last person leaving the lantern room to tell the Oil Room docent that he/she is the last one down.
- 4) Watch the weather from your vantage point and report to the staff person if there is a storm moving in or if you hear thunder.
- 5) Use the walkie-talkie to communicate with the Oil Room Guide for traffic flow and time schedules.
- 6) Review the emergency procedures JUST IN CASE there is an emergency.

THANK YOU AND ENJOY THE VIEW.

References:

1. Historic Structures Report, 2007
1. Instructions to the Light-Keepers, GLLKA 1902
2. From How Far Can You see A Lighthouse, Jack Graham, Lighthouse Digest July- Aug. 2014
3. Buffalo Coast Guard Station, 9<sup>th</sup> District, Great Lakes, USCG

5/27/17