

## **Lightning Emergency Action Plan (EAP)**

This Emergency Action Plan ("EAP") shall delineate all required preparations and procedures in the event of lightning. Lightning cannot be prevented, but the vulnerability of employees and patrons near bodies of water shall be minimized to the greatest extent possible through this EAP. A copy of this EAP shall be posted at Beach Patrol Headquarters, shall be distributed to all staff members during and after being trained on this plan, and shall be publicly available on the Borough's website. For purposes of this EAP, "Headquarters" shall refer to the building located at "N Street" on the Borough of Seaside Park boardwalk.

Seaside Park has implemented a fully autonomous lightning detection system that does not require outside forces, i.e. internet/radar or human interaction. This system detects lightning at 20, 10, and 5 miles.

Since lightning can strike up to 10 miles from a storm, Seaside Park has implemented a 10-mile audible alarm setting. When lightning is within 10 miles the system automatically sets off audio horns with a "Siren" sound at 158db for 45 seconds. A strobe light is also triggered and stays on during the duration of the lightning event.

The system automatically calculates the time and distance of lightning and once there is no additional threat after 30 minutes from the last lightning strike within 10 miles the system automatically triggers an "All Clear" horn sound lasting 45 seconds and turns off the strobe.

The system is active year-round and the warning horns and strobe lights are active during the following dates and times. All times listed below are eastern standard times.

Dates	Times	Horns Active	Strobes Active
May 1 – September 30	6:00am – 9:00pm	X	Х
	9:00pm – 6:00am		Х
October 1 – April 30	12:00am-11:59pm		Х

The lightning detection system cannot predict the first lightning strike. Consequently, it is important to watch the sky for storms developing overhead or nearby and get to a safe place prior to the first lightning strike.





### **Section 1: Weather Watcher; Responsibilities**

<u>Detection</u>: Seaside Park has two forms of detection; one being human detection (i.e. Weather Watcher) and the second is the Strike Guard Lightning Detection system (mechanical). Either form of detection can initiate the EAP.

<u>Human Detection</u>: The *Weather Watcher(s)* are staff that are stationed at Headquarters. These individuals are only available during Beach Patrol dates and times. The Weather Watchers will use visual observations of Cumulonimbus clouds with the combination of radar and weather apps. The Weather Watcher will make a determination of the distance of an approaching storm. The Lightning Detection System, which also shows flashes of lightning and strike counts, has an indoor audible alarm to alert the Weather Watcher. After the Weather Watcher assess the incoming weather, they will determine to "prepare for clearing" or "clear the beach"

<u>Strike Guard</u>: uses technology to monitor cloud-to-cloud and cloud-to-ground lightning. The system is set to *alert* at 20 miles and *alarm* at 10 miles. When the alarm is triggered, the system will set off a strobe light and a siren/horn alert at the three stations located at O Street, D Street and 9<sup>th</sup> Avenue. When the threat of lightning has not appeared for 30 minutes, the system will sound an "All Clear" horn.

\*IF Strike Guard goes off, it becomes the lead decision maker for that event. \*

The Weather Watcher shall, at a minimum, have the following responsibilities:

- 1. Review available forecasts, NWS Advisories, Watches, and Warnings via NOAA weather radio, the on-site lightning detector via Sky Scan, and smartphone applications and websites, including, but not limited to, <a href="http://www.weather.gov">http://www.weather.gov</a>.
- In the event the Weather Watcher has questions regarding the potential for lightning on any given shift, he/she shall contact the National Weather Service in Mount Holly, New Jersey at 609-261-6600.
- 3. In the event that the Weather Watcher concludes a "Watch" or "Warning" is occurring on a given shift, the Weather Watcher shall contact all employees via radio communication to alert lifeguards of a potential closure if lightning is detected. As a back-up, the Weather Watcher shall utilize a text message (via Remind cell phone application) communication 2025 Lightning EAP



for each lifeguard. A list of cell phone numbers for each lifeguard shall be maintained at Headquarters at all times in the event that radio communication and the Remind application malfunction.

4. If a sighting of lightning occurs, the Weather Watcher shall utilize the "Flash-to-Bang" rule. The Weather Watcher shall begin counting once sighting a lightning flash. Counting is stopped at the sound of related thunder. The count is then divided by five (5) to determine the proximity in miles of the lightning strike. (5 seconds = 1 mile; 50 seconds = 10 miles, etc.).

### Section 2: Threat Levels; Communication; Protective Action

For purposes of this EAP, each Threat Level shall be defined as follows:

<u>Threat Level 1</u>: Lightning detected within 20 miles; <u>Threat Level 2</u>: Lightning detected within 15 miles; Threat Level 3: Lightning detected within 10 miles.

In the event any Threat Level has been detected via the Strike Guard Lightning Detection system or the Flash-to-Bang rule, the Weather Watcher shall notify management and staff via radio communication, and text communication that a Threat Level is in effect. The Weather Watcher shall also alert the Beach Control Headquarters located in the Borough Bathhouse on "N Street."

If the Weather Watcher concludes that the thunderstorm is approaching the site, or if a
more organized thunderstorm or cluster of thunderstorms (supercells, squall lines, bow
echoes) is headed to the Borough's beaches, which are approximately 1.5 miles in length
from Stockton Avenue to 14<sup>th</sup> Avenue, a 30-minute lead time or more shall be considered
for protective actions.

#### Potential Protective Actions for Threat Level 1:

If lightning is detected within 20 miles via the lightning detection system, flash-to-bang rule or it appears the thunderstorm is moving toward the site, the Weather Watcher shall notify management of a threat as soon as practicable in order for management to make a determination on protective actions. Management shall take the following protective actions, but may consider more restrictive actions as outlined in Threat Level 2 and 3:

a. Consider evacuating the beach if the storm appears to be rapidly approaching the



Borough beaches which may result in a Threat Level 3 (lightning within 10 miles).

- b. Radio lifeguards to make them aware of the Threat Level 1 status.
- c. Lifeguards may be instructed to begin collecting and storing equipment, including crowd control ropes, umbrellas, rescue boards, medical kits, and shovels. Rescue torpedoes and line boxes should be kept out on the beach until further instruction is given.
- d. If management concludes the storm is approaching within 10 miles of any of the Borough beaches, management shall direct all lifeguards to close the beach and find shelter in accordance with Threat Level 3 as delineated below in the "Evacuation Plan" section.

#### Potential Protective Actions for Threat Level 2:

If lightning is detected within 15 miles via the lightning detection system, flash-to-bang rule or it appears the thunderstorm is moving toward the site, the Weather Watcher shall notify management of the threat as soon as practicable in order for management to make a determination on protective actions. Management shall take the following protective actions, but may consider more restrictive actions as outlined in Threat 3:

- a. Radio lifeguards to make a public announcement to all beach patrons of the lightning threat and require swimmers to return to shore.
- b. Lifeguards shall be instructed to collect and store remaining equipment. Any lifeguard that fails to collect and store equipment shall <u>not</u> be disciplined, and lifeguards shall exercise best judgment to determine if equipment can be stored safely.
- c. If management concludes the storm is approaching within 10 miles of any of the Borough beaches, management may direct all lifeguards to close the beach and find shelter in accordance with Threat Level 3 as delineated below in the "Evacuation Plan" section.

#### Potential Protective Actions for Threat Level 3:

Lightning detected within 10 miles via lightning detection system or the Weather Watcher or lifeguards feel there is a fast moving or imminent threat of lightning outside of the detection range, lifeguards may contact the senior lifeguard on duty to manually activate



the Lightning Detection System.

The Weather Watcher shall notify management of the Threat as soon as practicable in order for management to make a determination on protective actions. Management shall take the following protective actions:

- a. Radio lifeguards to make a public announcement to all beach patrons of the lightning threat, require any remaining swimmers to return to shore, and evacuate the beach to a designated safe area. Lifeguards shall lead the public to the safe area, but the public may seek alternative safe locations, such as a fully enclosed motor vehicle. Lifeguards shall provide beach patrons with two (2) verbal warnings. If patrons do not comply, lifeguards are required to seek shelter and write up the incident.
- b. Lifeguards shall be instructed to collect and store remaining equipment. Any lifeguard that fails to collect and store equipment shall <u>not</u> be disciplined, and lifeguards shall exercise best judgment to determine if equipment can be stored safely. The lifeguard's priority should be the safety of the public and their own safety.
- c. With use of a four-wheel drive, fully enclosed beach truck, lifeguard officers will alert the public of a lightning threat and that evacuation is required.

#### **Section 3: Evacuation Plan**

Staff members shall be required to make best efforts to reach the shelter location designated below. In the event the staff member is unable to reach the below location, the staff member shall attempt to find shelter in a fully enclosed motor vehicle. If no motor vehicle is available, staff members shall stay away from the tallest objects (lifeguard stands, light poles, flag poles), metal objects (fences or bleachers), standing pools of water, and open areas. At a minimum, all employees must remain in shelter for 30 minutes after hearing the last sound of thunder, or upon hearing an "All Clear" from the lightning detection system or management via radio or text message communication that it is safe to unsheltered.

For purposes of these shelters, each of the abbreviations shall be defined below:

"HQ" stands for the main headquarters located at "N Street"

"South HQ" stands for the southern headquarters located on North Avenue.

"Borough Hall" refers to the Borough Administration Building located at 1701 N. Ocean Avenue





"POV" is a "privately owned vehicle". Note the only acceptable POV must be a fully enclosed metal vehicle (no soft top convertibles).

All shelters shall be designated and marked at each beach entrance to inform both staff members and the public.

Stand Location	Shelter
Decatur Ave	POV, HQ or Borough Hall
Lafayette Ave	POV, HQ or Borough Hall
O St	POV or HQ
M St	POV or HQ
L St	POV or HQ
J St	POV or J St Community Center
H St	POV or J St Community Center
F St	POV or J St Community Center
D St	POV or South HQ
Brighton Ave	POV or South HQ
North Ave	POV or South HQ



2nd Ave	POV or South HQ
5th Ave	POV or Police Station
7 <sup>th</sup> Ave	POV or Police Station
10 <sup>th</sup> Ave	POV or Police Station
12 <sup>th</sup> Ave	POV or Police Station
5 <sup>th</sup> Ave Bay beach	POV or Police Station

### **All Clear Requirements**

Management, with the assistance of the Weather Watcher, will continue to monitor the proximity of thunderstorms and utilize local observations to make an informed decision, determining the appropriate time to recommend reopening outdoor facilities. Management may then allow for normal activities to resume after 30 minutes of no detected lightning strikes within a 10-mile radius of the site (Lightning detection system siren will sound for 45 seconds indicating an all clear). Management shall notify all staff via radio communication and text message that the beach is "All Clear" and for all staff members to return to their posts. Staff members shall notify the public that outdoor activities can resume.

# **Lightning Injury Response**

In the event a staff member or member of the public is injured by lightning, all staff members shall be trained in accordance with best practices for Cardiopulmonary Resuscitation ("CPR"), Automated External Defibrillator ("AED"), and triage. Any staff member that witnesses an injured staff member or member of the public shall:

- Ensure scene safety (victims do not carry an electrical charge and can be touched).
- Communicate to the Weather Watcher and management of the injured individual's location, and whether the injured individual is responsive. Management shall



immediately contact the Ocean County Sheriff's Office Communications Division which is the 9-1-1 Public Safety Answering Point (PSAP) for Seaside Park, to dispatch an ambulance to that location.

- While waiting for emergency services, the staff member shall follow all Borough protocols for trauma injury and triage. If the staff member determines it is necessary and safe to move the victim to prevent further injury, the staff member may move the injured individual. Otherwise, the staff member shall stay in proximity to the injured individual and ensure the injured individual remains prone and does not move until emergency services arrive.
- If the injured individual is unresponsive, the staff member shall determine if the injured individual has a pulse. If no pulse is taken, the staff member shall conduct CPR on the individual until emergency services arrive or a steady pulse returns.
- If an AED is available, the staff member shall utilize an AED rather than CPR so long as the staff member has the requisite training to utilize the AED.

