

## ***EMERGENCY PROGRAM***

### ***THUNDERSTORM, LIGHTNING & TORNADO STORM PROCEDURE***

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#### **PURPOSE**

To provide guidelines for protecting employees and equipment during thunder, lightning, and tornado storms.

#### **SC-OPE**

Applicable to all projects in all states.

#### **RESPONSIBILITY**

The Superintendent will monitor storms as they appear (using NOAA weather reports at [weather.gov](http://weather.gov)) and implement these procedures as necessary. The Superintendent, or in his absence, the Foreman, will also have the authority to suspend operations when lightning has been detected in a 10-mile radius of the project work activities. Work activities should be suspended for at least 30 minutes after hearing the last sound of thunder or it has been determined the storm(s) has passed.

#### **DEFINITIONS**

**Weather Watch** – Issued when conditions are favorable for the formation of thunderstorms, lightning, and tornados.

**Weather Warning** – Issued when the storm has been sighted or located on radar.

Note: Storms can rush, and there may not be time for the formal issuing of a "Warning."

#### **PROCEDURES**

1. Prior to beginning outdoor work supervisor should check NOAA weather reports ([weather.gov](http://weather.gov)) and forecasts for weather hazards.
  - a. Ensure workers understand what actions to take after hearing thunder, seeing lightning, or perceiving any other warning signs.
  - b. Ensure employees know the locations and requirements for safe shelter.
  - c. Indicate response times for all employees to reach safe shelters.
  - d. Account for the time required to evacuate to reach safety.
2. Stay informed – A Thunderstorm (Cumulonimbus Cloud) is an individual weather factory and has four (4) distinct characteristics: anvil top, main body, roll cloud, and dark area extend from base of cloud to the earth.
3. If storms develop pay close attention to local television, radio, and internet weather reports, forecasts and emergency notifications regarding thunderstorm activity and severe weather.
4. Seek shelter (see section 9.2 (A) for refuge/protection for storm(s)).
5. Remain in shelter for at least 30 minutes after hearing the last sound of thunder or it has been determined the storm(s) has passed.

These storms move at approximately 25 miles per hour and usually travel from the southwest to the northeast, typically in an east-northeast direction. However, there is no guarantee to this. *The above is intended as a guide to what physical characteristics might be seen in a thunderstorm (Cumulonimbus Cloud).*

Tornadoes are closely associated with Cumulonimbus Clouds for these clouds are their spawning ground. (Tornadoes occur most frequently in the spring)

6. Watch and respond to cloud/weather formations
7. Listen to local weather advisories

If within declared **WATCH** area begin evaluating ways to protect employees and equipment so if a **WARNING** is issued or severe weather is imminent the following guidelines can be implemented:

#### **A. THUNDER AND LIGHTNING STORMS**

- | <u>Exposure</u>   | <u>Refuge/Protection</u>  |
|---|---|
| 1. Employee   | Under a bridge or other structure; inside office, tool van, vehicle; move away from open areas; stay away from natural lightning rods (poles, cranes, trees, etc.)  |
| 2. Land Crane   | Where possible boom down; operator stay in Enclosed cab; other employees stay away from the crane.  |
| 3. Barged Crane   | Where possible boom down; operator stay in enclosed cab; deckhands evacuate barge or into container/tool van; if crane not tied down, lower headache ball onto the deck or into the water to bypass mats to ground. |
| 4. Misc. Equipment  | Avoid open areas; operator stay in the cab (only with metal top).   |
| 1. <u>General Precautions</u>   |   |
| a. Discontinue the use of electrical tools during lightning storms.   |   |
| b. Hand tools, crowbars, etc., over 9 inches long could act as an antenna for lightning discharge.                                      |   |
| c. In open areas, be a small target. Squat low to the ground – do not lay on the ground.  |   |
| d. Get off and away from open water.  |   |
| e. Stay away from metal parts that could carry a current.   |   |
| f. Get off elevated structures (pier caps, bridge decks, structural steel, roofs, JLG's, etc.).   |   |
| g. Do not go to a tree for shelter if in a wooded area; stay away from the more massive trees.  |   |
| h. First aid for lightning; Call for help – Check breathing (CPR if needed) – Check for burns – Get medical attention.                  |   |
| i. After the storm, watch out for downed powerlines and snakes.   |   |
| j. If a piece of equipment has been struck by lightning, be sure to have it checked out thoroughly before putting it back into service. |   |

#### **B. TORNADOES**

- | <u>Exposure</u>  | <u>Refuge/Protection</u>   |
|--|--|
| 1. Employees   | Seek stable refuge (bridge abutment, lower level of the building). If an open area, lie flat in a ditch. <u>Do not</u> seek shelter in vans, trailers, or equipment. |
| 2. Cranes and Equipment  | Boom-down, lock house rotation, barricade windows, operator evacuated.   |
| 3. Materials   | Bundle, weight down, blockade as much as possible. Secure bridge deck overhangs.   |
| 1. <u>General Precautions</u>  |  |
| a. Never seek shelter in anything portable, i.e., trailers, tool vans, container, vehicles, equipment. |  |
| b. Do not try to outrun a tornado in a vehicle.  |  |
| c. Low lying area is the only refuge, lie flat and beware of flooding potential and protect the head.  |  |
| d. Watch out for damaged/downed powerlines and snakes after the storm has passed.                      |  |

*NOTE: Refer to Oscar Renda Hurricane Protection Procedures for hurricane information.*