



Environmental Health and Safety SOP #EHS-003 Thor Guard Lightning Prediction System Version 2.0

Effective: 04/29/2022

Revised: 04/29/2022

ENABLING DRIVER – POLICIES, REGULATIONS OR STANDARDS

1. University Policy 4.1.2, Environmental Health and Safety, <https://www.fau.edu/policies/files/4.1.2%20Environmental%20Health%20and%20Safety.pdf>

1. PURPOSE:

The University has installed a lightning prediction system manufactured by Thor Guard, Inc. at its Boca Raton campus to warn athletes, participants, and spectators at outdoor athletic and campus recreation facilities when a danger of lightning strike exists.

Using a series of strategically located horns and strobes, the system is designed to issue warnings in time for those at outdoor athletic and campus recreation facilities to seek shelter at an appropriate location. The horns and strobes may be heard or seen at other locations around the Boca Raton campus; therefore, others should heed these warnings as well.

2. APPLICABILITY AND SCOPE:

The procedure applies to all Thor Guard lightning prediction equipment and associated systems located at the Florida Atlantic University Campus in Boca Raton, Florida.

3. CONCEPTS AND DEFINITIONS:

3.1. Thor Guard Lightning Prediction System and Functionality Description

The Thor Guard system is designed to predict a lightning strike within a defined geographical region and provide a "RED ALERT" consisting of audible and visual warnings approximately 8 to 20 minutes before lightning strikes are experienced within that region. The system uses a highly sophisticated sensor and computer to measure and analyze the electrostatic field in the atmosphere. Lightning originates within this field, thus allowing Thor Guard to make calculations predicting its occurrence even though there may be no visible evidence of lightning. Therefore, unlike lightning detection systems, which require the occurrence of an actual lightning strike before issuing a warning, the Thor Guard system can predict so called "bolts out of the blue," which are strikes that seem to come from nowhere and cause a high percentage of lightning fatalities.

SOP# EHS-003 – Thor Guard Lightning Prediction System

Thor Guard base stations, warning horns and strobes have been installed around the Florida Atlantic University campus as shown in Attachment “A”. There is only one main sensor unit, located atop the FAU Stadium. This unit has variable sensitivity and is set to function in a 2.5-mile radius from this location.

When pre-established detection limits are reached, the system activates a series of horns and strobe lights to warn those who are outside to seek shelter. The system is automated and provides protection on a set time schedule. The Thor Guard system at the Boca Raton Campus is currently set to operate from 7 a.m. to 10 p.m. each day. During football game days and other large events at the FAU Stadium, the system is placed in manual mode to make announcements at the stadium prior to manually activating horns and strobes on the rest of campus.

When conditions for a lightning strike exist, the system will give a 15-second blast on the horn cluster. At the same time, a yellow strobe will activate and stay on until the danger has passed. Once the potential for a lightning strike has passed, the system will activate the horns for an all-clear signal -- three short (5 second duration) blasts -- and the strobe light will stop blinking.

4. RESPONSIBILITIES:

4.1. Athletics

- 4.1.1. The system is administered by the FAU Department of Athletics.
- 4.1.2. Athletics Operations staff and Athletic Trainers monitor and operate the system, including setting up email/text notifications and installing Thor Viewer software for appropriate University personnel.
- 4.1.3. Athletics Operations staff and Athletics Trainers are responsible for placing the system in manual mode during football games and other large events at the FAU Stadium and returning the system to automatic mode after games or events.
- 4.1.4. Athletics Operations staff shall notify FAU Environmental Health and Safety immediately upon discovering any problems with the system.
- 4.1.5. Athletics Operations staff will assist FAU Environmental Health and Safety in educating the University Community about the Thor Guard Lightning Prediction System and what to do in the event the system is activated.
- 4.1.6. When the Thor Guard System activates, Athletics Operations staff, Athletics Trainers and Coaches are responsible for clearing athletics fields and advising spectators and others to seek appropriate shelter.
- 4.1.7. Athletics Operations staff, Athletics Trainers and Coaches shall not allow activities to resume until the Thor Guard System gives the “All Clear” signal.

4.2. Campus Recreation

- 4.2.1. When the Thor Guard System activates, Campus Recreation staff, are responsible for clearing outdoor campus recreation fields and pools and advising spectators and others to seek appropriate shelter.
- 4.2.2. Campus Recreation staff shall not allow activities to resume until the Thor Guard System gives the “All Clear” signal.
- 4.2.3. Campus Recreation staff shall notify FAU Environmental Health and Safety immediately upon discovering any problems with the system.

4.3. Housing and Residential Life

SOP# EHS-003 – Thor Guard Lightning Prediction System

- 4.3.1. When the Thor Guard System activates, Housing and Residential Life staff, are responsible for clearing pools and advising others to seek appropriate shelter.
- 4.3.2. Housing and Residential Life shall not allow activities to resume until the Thor Guard System gives the “All Clear” signal.
- 4.3.3. Housing and Residential Life staff shall notify FAU Environmental Health and Safety immediately upon discovering any problems with the system.

4.4. Environmental Health and Safety

- 4.4.1. EH&S is responsible for securing an annual preventive maintenance service agreement with Thor Guard, Inc. to ensure the system remains operational.
- 4.4.2. EH&S shall maintain a blanket purchase order with Thor Guard, Inc. for maintenance and repairs not covered by the annual preventive maintenance service agreement.
- 4.4.3. EH&S will coordinate with Athletics Operations staff to test the system when needed to determine operational status or after repairs.
- 4.4.4. EH&S will work with Athletics to educate the University Community about the Thor Guard Lightning Prediction System and what to do in the event the system is activated.

4.5. Engineering and Utilities

- 4.5.1. E&U will provide project management and technical oversight of modifications or repairs to the system.

5. SPECIFIC PROCEDURES/PROCEDURAL STEPS:

5.1. Suspending Activities and Seeking Shelter

- 5.1.1. If the Thor Guard Lightning Prediction System activates or a lightning strike danger is indicated by other monitoring systems, seek shelter inside a nearby building or a fully enclosed metal vehicle. Do not seek shelter under towers, trees or tall objects that could attract a lightning strike. Once inside a vehicle do not touch any metal that could be part of the vehicle frame. If you are working with an outdoor group, suspend activities and guide your participants inside.
- 5.1.2. Note: The final authority for suspension/resumption of NCAA activities is the NCAA Official in charge of the activity. NCAA Officials may suspend activities earlier or resume activities later than suggested by weather monitoring systems.

5.2. Resumption of Activities

- 5.2.1. Activities may be resumed after having been suspended when the Thor Guard system gives the “all clear” signal (three 5-second blasts of the horns and strobes stop blinking).
- 5.2.2. In the event there is a problem with the Thor Guard system, activities may be resumed 30 minutes after the last incidence of lightning and thunder in the area. Again, NCAA Officials may delay resumption at their discretion.

5.3. FAU Stadium Lightning Policy

- 5.3.1. Specific procedures are in place for the events at the FAU Stadium. Please consult the Athletics Department and the University Police Department Stadium Operations Plans for details.

SOP# EHS-003 – Thor Guard Lightning Prediction System

6. RELATED DOCUMENTS:

None

7. DOCUMENT MANAGEMENT AND CONTROL:

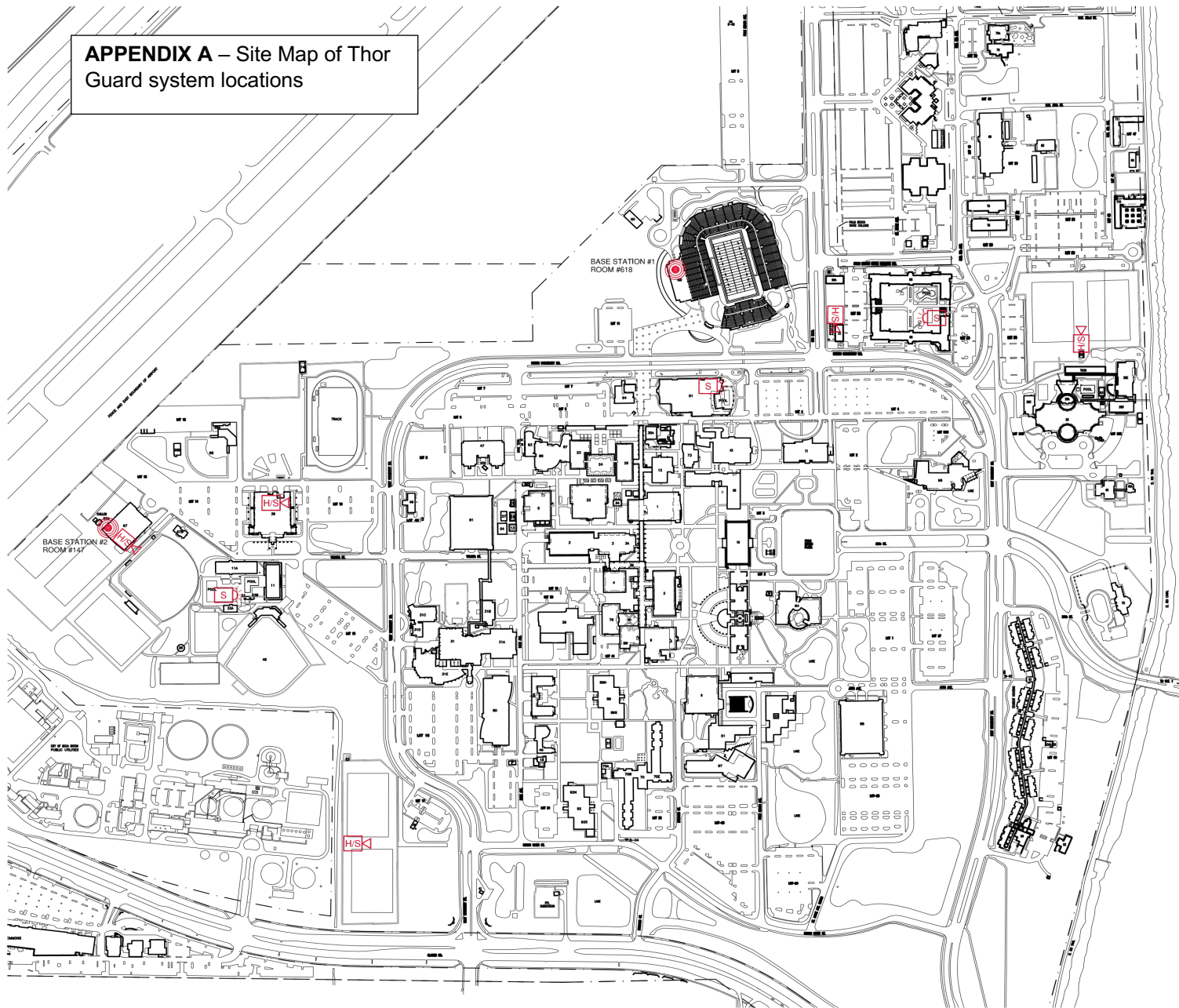
SOP Owner/Contact	Wendy Ash Graves
SOP Preparer	Wendy Ash Graves/Arnie Harrison
Approved by	Wendy Ash Graves
Date Approved	4/29/2022
Last Revision Date	04/29/2022
Last Revision By	Wendy Ash Graves
Next Review Due	04/29/2025
Review Frequency	3 years
Version	02
Time Sensitive Items	

8. RECORD OF CHANGES:

Version	Date	Summary of Change	Reviewed By
	04/29/2020	<ul style="list-style-type: none">• Update outdated information.• Update to new format.	<ul style="list-style-type: none">• W. Ash Graves

SOP# EHS-003 – Thor Guard Lightning Prediction System

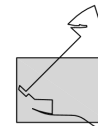
APPENDIX A – Site Map of Thor Guard system locations



FLORIDA ATLANTIC UNIVERSITY
BOCA RATON CAMPUS
777 Glades Road – P.O. Box 3091
Boca Raton, FL 33431-0991



SCALE:
1" = 700'-0"



KEY PLAN
N.T.S.

Sheet Title:
**INFRASTRUCTURE –
CAMPUS LIGHTNING PREDICTION SYSTEM**

LEGEND	
	BASE STATION
	HORN ARRAY AND STROKE
	STROKE

DRAWN: I. MAURODIN
CHECKED: R. THOMPSON
ISSUED DATE: 05/03/2012
Sheet No: LP-1