

UNIVERSITY OF LOUISIANA AT LAFAYETTE

STEP Committee

Technology Fee Application

Recreational Sports Lightning Detection System

Title

David Suter, Director of Rec Sports

Name of Submitter

(Faculty or Staff Only)

Department of Recreational Sports

Organization

Title: Recreational Sports Lightning Detection System Date: 01/11/2018
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ABSTRACT (250 words or less):

The Department of Recreational Sports directly oversees multiple outdoor facilities in which we program events for students, staff, and faculty to participate in. Safety of all participants is at the foremost of all program policies. With an outdated and invalid method of lightning detection, Rec Sports would like to follow suit of other major universities and City Parks and Recreation lightning detection procedure. THOR GUARD is a scientific instrument, which utilizes a computer and sensor to monitor the atmosphere & provide the advanced warning of lightning. Instead of basing decisions on lightning strikes that have already happened, THOR GUARD is able to identify strikes 8-20 minutes before the hazard arrives. This system will directly affect the safety of all university members participating in usage of our outdoor facilities. As our programs and services continue to expand, the chance of someone being struck by lightning will also continue to grow. It is imperative that we take the decision of postponing outdoor events due to the potential of lightning strikes out of the hands of our staff and entrust it to this advanced scientific technology.

Proposal

a. Purpose of grant and impact

i. Need

Anyone can watch a storm on the radar and even see lightning strikes plotted on a map in real time, but what about predicting where lightning will strike next? THOR GUARD leads the world in the manufacture of lightning prediction and lightning warning systems. Safety of all recreational sports participants is one of the most important components implemented across all of our program areas. Currently, Rec Sports lightning procedure practices include professional staff members and student staff members to analyze a "Storm Application" on a smart phone or desktop computer during outdoor activities such as swimming, intramurals, and special events. This app lets staff members set lightning detection zone that reports lightning strikes within a 5 mile radius from the user's location. To this day, our department and university have been fortunate enough to not have any lightning strikes on any persons utilizing properties that our department oversees. Although our current practice of lightning strike detection and reporting has been sufficient in the past it does not help tackle the issue of being able to accurately detect where lightning will strike next. The THOR GUARD monitors a range of up to 25 miles radius and will allow user to make adjustments to the system. THOR GUARD predicts lightning before it strikes within 2 ½ miles of the sensor allowing people time to move to a safe shelter. Air Horns cover a radius of 700 yards and remote lightning detectors can be added to supplement the main station. Recreational Sports is asking for funding to install the THOR GUARD model L75-SYS which includes a home base unit which will be placed at the Student Aquatic Center and a remote unit which will be placed at the Recreational Sports Complex on Coliseum Road.

As mentioned In the Abstract, this is becoming a necessary practice for Parks and Rec facilities as well as major universities recreation centers. We have testimonials from the University of Miami and Louisiana State University preaching their admiration of the THOR GUARD system. Each university implemented this system in 2009 and 2010, respectively. These are just two of the many universities who have adapted and implemented this lightning detections system. Unfortunately Louisiana remains one of the states who experiences the most lightning strikes annually with an incredible 837,000 strikes per year. We must be proactive in doing what we can to ensure the utmost safety of all university members participating within our facilities.

ii. Impact

The Department of Recreational Sports services a great number of students, faculty, and staff across the university community. With that, Rec Sports is also in direct supervision of multiple outdoor facilities. These facilities include the Aquatic Center, Bourgeois Park, Bourgeois Hall Tennis Courts, and the new Recreational Sports Complex located on Coliseum Road. Year round, these outdoor facilities face constant use on a daily and nightly basis hosting special events, tournaments, and departmental programming as well as drop-in student activities. The installation of this lightning detection system will solidify the safety of all recreational sports participants and community members alike who may be within an alarm radius. Bourgeois Hall, where Recreational Sports is housed, is also the home of the Department of Kinesiology. During any given semester Rec Sports partners with Kinesiology by helping provide outdoor spaces and facilities for Kinesiology to hold their activity classes. Throughout the year Recreational Sports allows university departments, student organizations, and approved outside groups to rent or

reserve our outdoor spaces to host their events. During the summer, Rec Sports will rent out unutilized outdoor areas to outside community organizations. It is clear that the usage of these outdoor facilities stretches far beyond the students, staff and faculty that are participating in Recreational Sport programmed activities. With this particular model the university will have the option to piggy back on our current plan and add additional remote detection units to South Campus areas and Main Campus areas that fall within a 1 ¼ mile radius from the main unit location (Student Aquatic Center). This may be ideal for Athletics and in particular Cajun Field, Lamson Park, the Soccer/Track Facility, and M. L. "Tigue" Moore Field at Russo Park. The majority of outdoor practice areas for UL Athletics will be able to hear the 700 yard radius provided by the main unit at the Student Aquatic Center.

b. Projected lifetime of enhancement

The projected lifetime of these units ranges from 15-20 years with routine maintenance.

c. Person(s) responsible for

i. Implementation:

The 4LP Company and Barton Platte will be responsible for the implementation of these units.

ii. Installation:

The 4LP Company and Barton Platte, will be responsible for the installation of these units. 4LP will also partner with a local rental company to obtain a lift capable of mounting the units at an appropriate height

iii. Maintenance:

Routine maintenance will be provided by 4LP and Barton Platte to ensure that the units work at their ideal capacity. The routine Maintenance contract with 4LP will run 800.00\$ per year. This contract will ensure that if a unit breaks or is malfunctioning, 4Lp will have someone out to fix or replace unit. Parts and equipment costs for units that malfunction will be covered for two years under warranty after installation.

iv. Operation:

Professional staff members of the Department of Recreational Sports will be responsible for the operation of the THOR GUARD system.

v. Training (with qualifications):

Barton Platte will train department staff on how to properly use and interpret the systems, messages, and alarms from the THOR GUARD units.

Budget Proposal

1. Equipment \$21,200.00 –

Base Equipment: THOR GUARD L75 Lightning Prediction Computer Console, Hyperstatic Sensor With Triaxial Cable, AC/DC Power Supply, Mounting Bracket & Tripod, Hard Wired External Alarms, Base Driver With 5 Watt Transmitter, RF Antenna With Cable, Communications/ Power Cable, Weatherproof Mounted Box Housing, External Horn Cluster (6 Air Horns for 360 Degree Coverage), Heavy Duty Strobe Light With Cable.

Remote Alarms: Remote Receiver, 12VDC Solar Charged System, RF Antenna, Solar Panel, External Horn Cluster, Heavy Duty Strobe Light With Cable.

Additional Equipment: UPS Battery Backup

2. Software \$995.00 – Optional, ability to monitor strikes on mobile devices by all staff

3. Supplies \$0.00

4. Maintenance \$800.00 - Annual Contract

5. Personnel \$2,200.00

6. Other \$750.00 - Freight, rental of lift for installation

TOTAL: \$25,945.00