



## NATIONAL TRANSPORTATION SAFETY BOARD

Central Region  
Denver, Colorado

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### Investigator's Statement

CEN14FA224

Hughey & Phillips – Urbana, Ohio

October 1, 2014

#### Examination Observers:

Jennifer Rodi – NTSB, CRA – Denver, Colorado

Jared Knotts – Hughey & Phillips – Urbana, Ohio

Jeff Jacobs – Hughey & Phillips – Urbana, Ohio

The power supply, flash head, and photocell (44812A) were removed from tower 14 by an employee of ESI at the request of the wind turbine company. All of the components were shipped to Hughey & Phillips for further examination.

The shipping container was not damaged and the evidence tag appeared intact.

During the examination the following observations were made:

- The flash head gasket was broken into 5 pieces. The day lens was crazed and a screw was loose in flash head.
- The photocell which was in the container is an aftermarket unit and not as supplied by Hughey & Phillips.
- An aftermarket transformer was added to the power supply above the TB1 terminal block. This was not wired into the power supply and two wires hung from the transformer.

The power supply was placed on test jig and the power supply and flash head were connected via a 7-wire power cable, 7 feet in length, provided by Hughey & Phillips. When power was applied to the unit the flash head did not work - the red lamp attempted to flash and the white lamp did not flash.

- The lower flash tube was black consistent with age/use
- The power supply - capacitor C3 – was bulged at the top consistent with a bad capacitor

The capacitor was replaced and the red lamp functioned as designed. The white lamp did not function. The white flash tube was replaced with a new flash tube.

- When it was in day mode white light activated
- When in night mode the red light activated
- When in auto mode, the light was applied to the photocell sensor and after 30 seconds it switched from night to day. When light was removed and sensor was covered to remove light it switched back to night after 30 seconds.

The photocell was placed in a test chamber. When all light was removed, one light bulb illuminated. When 5 candellas was applied there was no change. The candellas were increased incrementally to 30 with no change. When the candellas were increased to 50, the test chamber switched to night mode within a minute or more.

The flash rate of the unit was tested.

- The red lamp tested at a rate of 25 – This is within the FAA specifications for the L-864 fixture, 20 to 40 flashes per minute.
- The white lamp tested at a rate of 40 - This is within the FAA specifications for the L-865 fixture, 40 flashes per minute.

The alarm function tested as designed.

The entire system operated normally with basic replacement of the flashtube and capacitor. The system was not operational in its as removed state.