

Date: Wed, 14 Jul 1999 14:36:06 -0600
From: Meredith Brown <racer@lanl.gov>
Subject: Yellow Alert: Exterior Security Light Causes Structure Fire

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<http://www.hanford.gov/lessons/sitell/1199/199926.htm>.

John Bickford
Project Hanford Lessons Learned Coordinator
(509) 373-7664
<http://www.hanford.gov/lessons/sitell/sitehome.htm>

Title: Exterior Security Light Causes Structure Fire

Date: July 13, 1999 Identifier: 1999-RL-HNF-0026

Lessons Learned Statement: Certain types of light fixtures become very hot and may cause a fire when coming in contact with a roof or other flammable material. Qualified inspectors must inspect all electrical installations to ensure compliance with National Electrical Codes. Installations that are not according to code can present hazards to personnel and property.

Discussion of Activities:

Summary: An exterior halogen security light on a mobile office building vibrated loose on its mount, contacted the wood underlying the roofing materials, and ignited the roof. The fire was extinguished quickly but caused significant damage to the corner of the unoccupied building.

Details: Early in the morning on June 21, 1999, a fire occurred on the roof of mobile office trailer M0-255. The apparent cause was an exterior 500-watt halogen floodlight coming close to or in contact with the roof of the trailer. The light was apparently loosened by wind and weather, rotated downward, and contacted the roof. The facility, a doublewide mobile office with space for 10-12 employees, was vacant at the time of the fire. A similar condition was noted at a building across the street, where a floodlight was close to the roof of a building with electrical power still supplied to it. Electrical crews at the fire scene secured power to both buildings.

Analysis: Preliminary investigation indicates that the photocell operated external 500-watt halogen light fixture worked loose and rested on or very close to the roof, eventually igniting the wood underlying the roof. A shop test on the light showed that the face temperature of the fixture can exceed 250° F after 5 minutes of operation.

Recommended Actions: Facility managers should check their buildings and expeditiously correct any fixtures that may cause a similar problem. It is recommended that fixtures of this type be removed. If they are left in place, they should be included in a periodic inspection program. Even though this building was unoccupied at the time of the fire, workers in the area should have noticed the hazardous situation developing. ALL employees need to take ownership of their environment and be responsible for recognizing and reporting hazards. Managers

responsible for electrical installations should ensure that a trained inspector verifies that their installation meets NEC requirements.

Priority Descriptor: YELLOW/Caution

Functional Categories (DOE): Fire Protection, Maintenance

Functional Categories (Hanford specific): Electrical

Originator: Fluor Daniel Hanford, Inc.

Contact: Project Hanford Lessons Learned Coordinator; (509) 373-7664; e-mail:

PHMC_Lessons_Learned@rl.gov

Authorized Derivative Classifier: Roger Terry (509) 372-3343

Reviewing Official: John Bickford

Keyword(s): security light, ignition

References: Occurrence Report - RL-PHMC-FSS-1999-0031

Safety Alert 1999-06-21 DYN-M0255.