

Date Tue, 02 Nov 1999 094658 -0700
From Meredith Brown racer@lanl.gov
Subject: Blue Alert- Inadequate Locking Devices

Title: Blue Alert- Inadequate Locking Devices

Date November 2, 1999
Identifier 1999-ALO-WID-0007

Lessons Learned Statement: Use thumbscrew-locking devices in place of non-clamping devices when locking out electrical circuit breaker handles in wall-mounted distribution cabinets.

Discussion of Activities: During an electrical lockout/tagout event, an employee opened a single pole breaker in a wall mounted distribution cabinet to install a locking device. The locking device is an after market product consisting of two molded plastic sections that fold together clamping the breaker handle in the open position to prevent the circuit breaker handle from being accidentally closed. The locking device has ears that when folded together form a common leg. A hole is provided through the leg to receive a lock securing the device in place. The employee attached a lock through this hole. A second employee arrived and performed an independent verification to ensure the lockout device was in place. Since craft personnel were not expected to arrive for several minutes, the independent verifier closed the distribution cabinet door as far as the lockout hardware would allow.

It was determined the lockout would not be needed until the next day and the first employee proceeded to remove the lockout hardware. He noticed that the circuit breaker handle was in the closed position even though the locking device was still installed. An investigation revealed that when the independent verifier closed the distribution cabinet door against the lockout hardware, there was sufficient pressure applied to the locking device, and there was sufficient clearance between the breaker handle and the locking device to allow the breaker handle to close. In order to prevent recurrence, a thumbscrew-locking device with a thumbscrew securing clamp was tested. Under similar conditions it provided unaffected by lateral pressure created by closing the cabinet door.

Recommended Actions: Use an electrical circuit breaker handles in wall mounted distribution cabinets. With a thumbscrew securing clamp to lockout electrical circuit breaker handles in wall -mounted distribution cabinets. Remove all other types of locking devices on such breaker handles from service.

Priority Descriptor Blue/Informational
DOE Functional Category Electrical
User-Defined Functional Category Lockout devices
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Authorized Derivative Classifier Not applicable
Reviewing Official J. R. Galle
Keywords Lockout devices, electrical circuit breaker handles
References WIPP Lessons Learned Bulletin LL99-114