

Here's what went wrong with the Hawaii false alarm



(CNN)How did a drill at the Hawaii Emergency Management Agency go so wrong and create so much panic?

Investigations conducted internally and by the Federal Communications Commission have been digging into what led to the false ballistic missile alert earlier this month. So far, they say it's a combination of factors that involves human error and lack of safeguards.

It all [started with a drill on January 13](#) when an employee sent out a false alert that went throughout the state. Here are some of the major findings:

- The employee who triggered the alarm, referred to as Employee 1, said [he didn't know they were going through an exercise](#), even though five others in the room heard, "Exercise, Exercise, Exercise," which informed people that it was a drill, said Brigadier General Bruce E. Oliveira, the investigating officer heading the internal investigation.
- The employee "therefore believed that the missile threat was real," the FCC said.
- The employee "had a history of confusing drill and real-world events," said Oliveira. He has confused drills in at least two documented occasions. Colleagues had been concerned about the employee's performance for years, according to the internal investigation.
- The employee activated the real-world alert code instead of the test missile alert. The computer asked him to confirm the choice and he clicked yes, according to the [investigation's timeline](#).

- After issuing the alert, the employee seemed "confused" and "froze," Oliveira said. Although instructed to send out the cancel message on the system, he didn't seem to respond. Another employee had to take over his responsibilities. "At no point does Employee 1 assist in the process," according to the investigation timeline.
- Another issue was that the drill was conducted during shift change, which caused miscommunication and confusion over who was in charge. Oliveira recommended eliminating practice drills during a shift change. And supervisors must now receive advance notice of all future drills.

Result: Employee 1 has been fired. Another employee is in the process of being suspended without pay and a third employee resigned before any disciplinary action was taken. Vern Miyagi, administrator of the state emergency management agency, who accepted responsibility for the incident, [resigned Tuesday](#).

The agency has stopped all future ballistic missile defense drills until it can wrap up its own investigation.

Inadequate safeguards

- The Hawaii Emergency Management Agency "didn't have reasonable safeguards in place to prevent human error from resulting in the transmission of a false alert," said Ajit Pai, FCC's chairman.
- There were no requirements for the employee to check with a colleague or supervisor before sending the alert. So the agency didn't have sufficient safeguards to prevent one person from erroneously sending an alert throughout the entire state, the FCC said.
- Another issue was that the agency didn't have a plan in case a false alert was sent, Pai said.
- There was no response protocol in the event of a false ballistic missile message, even though the need to establish one had been identified by the preparedness branch, according to the state investigation.
- "The agency was not immediately prepared to issue a correction using these systems," according to the FCC. A follow-up notification was sent 38 minutes later.

Result: The agency has adopted a new policy requiring two credentialed warning officers to sign in and validate every alert and test. It has also created a false alert correction template, so in case of an error, it can be corrected quickly.

Computer software design

- The FCC called it "troubling" that Hawaii's alert origination software didn't differentiate between testing and the live alert environment. Both alerts had the

same interface and the same confirmation language, regardless of whether the message was real or a drill, that said, "Are you sure you want to send this alert?"

- This comes in contrast with what the FCC said was common industry practice to have a separate log-in screen or application, to differentiate between live versus test.

Result: The Hawaii Emergency Management Agency has requested changes to its software to differentiate between the testing and live production.

CNN's Artemis Moshtaghian, Darran Simon, Lawrence Davidson and Liz Turrell contributed to this report.