The CIA, the FBI and other federal agencies are using polygraph machines more than ever to screen applicants and hunt for lawbreakers, even as scientists have become more certain that the equipment is ineffective in accurately detecting when people are lying.

Instead, many experts say, the real utility of the polygraph machine, or “lie detector,” is that many of the tens of thousands of people who are subjected to it each year believe that it works – and thus will frequently admit to things they might not otherwise acknowledge during an interview or interrogation.

Many researchers and defense attorneys say the technology is prone to a high number of false results that have stalled or derailed hundreds of careers and have prevented many qualified applicants from joining the fight against terrorism. At the FBI, for example, about 25 percent of applicants fail a polygraph exam each year, according to the bureau’s security director.

The polygraph has emerged as a pivotal tool in the CIA’s aggressive effort to identify suspected leakers after embarrassing disclosures about government anti-terrorism tactics. The agency fired a veteran officer, Mary O. McCarthy, on April 20, alleging that she had shared classified information and operational details with The Washington Post and other news organizations, a charge her lawyer disputes.

CIA officials have said that McCarthy failed more than one polygraph examination administered by the CIA, but the details surrounding those interviews remain unclear. Dozens of senior-level CIA officials have been subjected to polygraph tests as part of the inquiry, which is aimed at identifying employees who may have talked to reporters about classified programs, including providing information about the agency’s network of secret prisons for terrorism suspects.

“The reason an officer at CIA was terminated was for having unauthorized contact with the media and the improper release of classified information,” said Paul Gimigliano, a CIA spokesman. “Don’t think in terms of a failure of a polygraph being the reason for termination – the polygraph is one tool in an investigative process.”
In the popular mind, fueled by Hollywood representations, polygraphs are lie-detection machines that can peer inside people’s heads to determine whether they are telling the truth.

The scientific reality is far different: The machines measure various physiological changes, including in blood pressure and heart rate, to determine when subjects are getting anxious, based on the idea that deception involves an element of anxiety. But because an emotion such as anxiety can be triggered by many factors other than lying, experts worry that the tests can overlook smooth-talking liars while pointing a finger at innocent people who just happen to be rattled.

In settings in which large numbers of employees are screened to determine whether they are spies, the polygraph produces results that are extremely problematic, according to a comprehensive 2002 review by a federal panel of distinguished scientists. The study found that if polygraphs were administered to a group of 10,000 people that included 10 spies, nearly 1,600 innocent people would fail the test – and two of the spies would pass.

“Its accuracy in distinguishing actual or potential security violators from innocent test takers is insufficient to justify reliance on its use in employee security screening in federal agencies,” the panel concluded.

Polygraph test results are also generally inadmissible in federal courts and in most state courts because of doubts about their reliability. Statements or admissions made by test subjects during a polygraph session, however, can often be used by prosecutors at trial, according to legal experts.

But even critics of the polygraph concede that it can help managers learn things about employees that would otherwise remain hidden. That aspect of polygraph testing lies at the heart of its continuing appeal, said Alan Zelicoff, a former scientist at Sandia National Laboratories who quit because he believed that polygraphs are unethical.

Although polygraph tests involving national security are supposed to be about a handful of questions involving espionage, Zelicoff said the tests take hours: “In each and every test, what happens is after question two or three the questioner will pause and very deliberately take a long hard look at the chart and take a deep breath and sigh and say, ‘You did really well on question one, but on the second question, about whether you released classified information, I am getting a strange reading. Tell you what – I am going to turn the machine off and I am going to ask whether there is something you want to get off your chest.’”

“That is what the polygraph is about,” said Zelicoff, who has testimony from several employees who are angry about the tests. “It is about an excuse to conduct a wide-ranging inquisition.”

The subjective opinions of polygraph examiners play a huge role in whether people are said to pass or fail, said William Iacono, a psychologist at the University of Minnesota.
who has extensively studied the technique. As evidence, Iacono said that polygraph tests rarely find problems among senior staff members at organizations, even as 30 to 40 percent of applicants for entry-level positions fail.

“The director of the CIA just took a test,” said Iacono. “How would you like to be the examiner who gave him a test and say he failed? What kind of a career would you have?”

The president of the American Polygraph Association, T.V. O’Malley, said polygraph technology is held to an unfair standard in many cases, and he compared it to mammograms and other medical screening procedures that are imperfect but valuable in detecting problems. He also acknowledged that some of the polygraph’s value is simply in prompting people to tell the truth.

“It’s kind of like confessing . . . to a priest: You feel a little better by getting rid of your baggage,” O’Malley said. “The same thing often happens with a polygraph examination.”

Charles S. Phalen Jr., the FBI’s assistant director for security, said the polygraph is a vital component of the bureau’s security program.

“This is the most effective collection tool that we have in our arsenal of security tools to identify disqualifying behavior and disqualifying activities,” Phalen said. “I will never sit here and say this is a perfect tool because it’s not. . . . In and of itself it won’t produce the truth, but it’s a way at getting at the truth.”

The ubiquity of polygraph testing in the federal government is due in large part to spy scandals that rocked the government over the past dozen years, including those involving Aldrich Ames at the CIA and Robert P. Hanssen at the FBI. Ames was allowed to continue working despite questionable polygraph results, whereas Hanssen was never given a lie-detector exam during his long FBI career.

Previous efforts to implement wide-scale testing were met with fierce opposition not only from rank-and-file employees but also from senior government officials. In 1985, President Ronald Reagan scaled back an order requiring thousands of government employees to submit to polygraphs after Secretary of State George P. Shultz threatened to resign if ordered to take one.

As part of changes implemented after Hanssen’s arrest in 2001, the FBI now conducts about 8,000 polygraph tests each year, most of which involve current employees, applicants and contractors. All applicants and new employees undergo a polygraph at the FBI, and nearly every employee – including the director – is subject to a new test every five years, officials said.

The CIA enacted broader testing policies after Ames’s unmasking. At the Department of Energy, which implemented changes as a result of the Wen Ho Lee case, about 20,000 employees are currently eligible for mandatory polygraph screening tests. (Lee, a former
nuclear weapons scientist, was held by the government for purportedly smuggling weapon-design secrets to China; all but one charge was dropped.)

The Department of Energy is considering scaling back its program to focus on 4,500 employees with access to the most sensitive information, in large part because of the 2002 analysis by the federal panel, according to a congressional report released last week.

Many scientists who criticize polygraphs as a screening tool say the machines can be effective when used as part of a “guilty-knowledge test.” In a bank robbery investigation, for example, suspects could be quizzed in multiple-choice tests on whether they knew if the weapon used was a gun or a knife, whether the money taken was $10, $1,000 or $10,000.

Focused questions that test whether people have memory of an event yield far more reliable results than open-ended screening tests that rely on emotions that can be triggered by a wide range of factors, said Iacono, who added that the federal government has resolutely refused to use the guilty-knowledge test. Officials have declined to describe the kind of tests McCarthy underwent at the CIA.

Iacono said conventional polygraph tests have little scientific validity but allow examiners to say, “I am getting the sense you are holding something back; is there something you want to tell me?”

“When people hear that, they admit things it would be difficult to get in any other way,” he said. “People will confess to crimes or make admissions about themselves or other people. They may reveal suspicions about a co-worker or explain they did something they should not have done. The government loves that.”

Researcher Julie Tate contributed to this report.

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