



The nation's ability to identify the source of a nuclear weapon used in a terrorist attack is fragile and eroding, according to a report released Thursday by the National Research Council.

Such highly specialized detective work, known as nuclear attribution, seeks to study clues from fallout and radioactive debris as a way to throw light on the identity of the attacker and the maker of the weapon. In recent years, federal officials have sought to improve such analytic skills, arguing that nuclear terrorism is a grave, long-term threat to the nation.

The major goals of the federal efforts are to clarify options for retaliation and to deter terrorists by letting them know that nuclear devices have fingerprints that atomic specialists can find and trace.

The report, "Nuclear Forensics: A Capability at Risk," was made public by the National Research Council, the research arm of the National Academy of Sciences. It summarizes a secret version completed in January. Three federal agencies — the Department of Homeland Security, the Defense Department, and the National Nuclear Security Administration, which is part of the Energy Department — requested the study.

The public report says that a series of factors threaten to undermine the nation's ability to conduct nuclear investigations intended to learn the provenance of an explosive device, whether it is a true atomic weapon or a so-called dirty bomb that uses ordinary explosives to spew radioactivity.

"Although U.S. nuclear forensics capabilities are substantial and can be improved, right now they are fragile, underresourced and, in some respects, deteriorating," the report warns. "Without strong leadership, careful planning and additional funds, these capabilities will decline."

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