

The significance of quantities and units in conveying CBRN risk to the public: a big difference in assessing the risk of C and B agents in comparison to R and N components

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Abstract:

It is crucial to communicate clearly and understandably the information on safeguarding against potential threats posed by CBRN (chemical, biological, radiological, and nuclear) agents to the general population. This approach is vital because practical cooperation between rescue teams and the public is essential. This principle extends to various emergencies, such as accidents or terrorist attacks, where a prompt response is necessary to mitigate panic or disorder that could undermine the effectiveness of protective measures. A deliberate assault utilizing even a minimal amount of CBRN material has the potential to induce significant, unwarranted fear among the public.

Responding to a CBRN attack poses an immense challenge for emergency services, quickly drawing significant public and media attention. Meeting the need for information while prioritizing public safety and efficiently managing the incident places substantial demands on rescue personnel. Typically, during the initial stages of a CBRN emergency, the police take the lead in reaction efforts. They are responsible for ensuring the public receives timely and accurate information, safeguarding them from potential harm. Rapid and effective delivery of information is crucial to saving the lives of those impacted or at risk.

The assessment of hazards arising from chemical and biological agents differs significantly from that of radiological and nuclear agents. While numerous quantities have been introduced to evaluate the risk of stochastic and deterministic effects for nuclear and radiological constituents, there is a comprehensive system for categorizing and quantifying the level of danger for chemical and biological materials. Typically, noteworthy incidents involving the latter are confined to specific areas, but there is potential for contamination to spread over a wide area. Traditional communication planning heavily relies on mass media, mainly broadcast media. Despite its importance, individuals vulnerable to such incidents may not have access to television and radio broadcasts. Consequently, communication advisers must explore alternative channels, including social media and direct communication methods.

The paper aims to streamline approaches to disseminating information to the public to avert chaos, panic, and misconceptions during CBRN emergencies. The presentation incorporates insights from safeguarding against ionizing radiation from radiological and nuclear materials.

Keywords:

CBRN; quantities and units; risk assessment; CBRN components.

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