

REGIONAL INFORMATION SHARING SYSTEM TO COMBAT NUCLEAR TERRORISM A PROBABILISTIC RISK ASSESSMENT APPROACH

The probabilistic risk assessment (PRA) methodology qualitatively can be applied as a most practical tool to address the problem of nuclear terrorism and efforts to reduce risk in the region of concern where roots of smuggling can be traced by constructing event trees. PRA can also be used as a tool for mitigating the consequences in case of occurrence of a unwanted attack

The problem we have to address is

i - How to assess the risk of nuclear terrorism

ii- How to prevent the risk of illicit trafficking of radioactive materials

iii-How to reduce the nuclear risk with regional cooperation efforts.

Radioactive and nuclear materials smuggled for illegal use can always cause a threat to human health and environmental safety whether they are discovered (seized) or may never be discovered

In this paper; it is proposed that the probabilistic risk assessment methodology in detecting and preventing terrorist attacks can be used to determine the accident sequences that lead to system failures, to remove weak links of the system, and also to help those who regulate the shipping and port establishments

In order to make an qualitative and if possible quantitative risk assessment to the problem of misuse of nuclear or radioactive material for producing of nuclear arms, explosives, use in terrorist attacks, questions to be addressed and actions to be taken for probabilistic logic approach may be as followings:

- Why illicit trafficking or smuggling? Analyze reasons and list initiating events
- What type of nuclear materials was smuggled in the past? Risks involved?
- Where would they go and they are handled? Work on event trees. Try to construct event trees on several scenarios
- What are the probabilities involved. Try to quantify probability of occurrence and select most probable event trees
- What might be the consequences?
- What could happen if serious nuclear attack occurs? Prepare emergency plans
- How the end results can be mitigated
- What are the lessons learnt? and

The one of the most important question which comes last but it should be the first:

- Who will be most affected hence should be more concerned? Classify groups such as

International concern

Regional concern

National governmental concern

Local governmental concern

Public concern

and analyze whether or not these groups have sufficient awareness and identify key groups to be addressed for a new initiative of a security awareness programs and to be supplied with more information to increase the awareness.

Gender

Female

State

Turkey

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