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**PAPER TITLE** **USE OF A RADIOLOGICAL ACCIDENT TYPOLOGY IN THE PREPARATION**  
**OF EPIDEMIOLOGICAL PLANS**

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**ABSTRACT (See instructions overleaf)**

After a radiological accident, epidemiological studies should be carried out in order to assess its health impact especially but not only on cancer risks. The implementation of studies on cancer raises various questions such as : what site of cancer should be followed or studied, will a cancer excess be detectable, what should be the kind and/or the size of a study ? The preparation of epidemiological plans should help to answer these questions for a variety of possible situations. For practical reasons, these plans will be based on a restricted number of « typical situations ».

Radiological accidents which occurred in the past and accident simulations on nuclear installations or transport of nuclear material were used to build up a set of accident scenarios. For all of these, numbers of exposed people, expected dose distributions, sites and numbers of excess cancers were calculated with appropriate tools. These parameters were then used to characterize and select the so called « typical situations » which are presented in this paper.

In some of these typical situations, the predicted cancer excesses are very low, under the level of statistical detectability. In others, the predicted excesses for specific sites of cancer are higher. Plans based on typical situations will provide guidance to define the objectives of epidemiological studies (e.g. description of cancer occurrence or cancer risk quantification), select the target population groups and choose the kinds of studies (mortality, morbidity) taking into account statistical power considerations.