Science Project: UK Recovery handbook for radiation incidents

Science Summary SC030164/SS (P3-105)

The UK Recovery handbook for radiation incidents guides decision-makers through the available recovery options following an incident dispersing radioactive material in the environment. It is designed for use in the UK and can be used for an accidental release from a nuclear site or weapons' transport accident. However, many recovery options will also be relevant to other radiation incidents, even though the pattern of contamination may be different. A total of 23 radionuclides are considered in the handbook.

Following an incident there will be an initial emergency phase where urgent measures are required to protect individuals from short-term, relatively high risks. Examples of these measures include sheltering or evacuation from an area. The initial emergency phase is followed by the recovery phase. Although there are no exact boundaries between the two phases, the recovery phase starts after the initial threat has been contained - that is, there is no threat of further release - and continues until all those affected have resumed 'normal lifestyles'. Although the handbook relates to the recovery phase, not the emergency phase, it can also be used in the emergency phase to provide useful information and advice.

The Recovery handbook for radiation incidents is aimed primarily at those organisations likely to be represented on the Recovery Working Group (RWG). An RWG is convened when it becomes clear that off-site contamination from an event is likely to occur. The group comprises representatives from both local and central government bodies.

The information in the handbook has been compiled to help the RWG plan how they would respond to an incident involving the dispersion of radioactive material into the environment. The handbook can also help the RWG make decisions on recovery options in the first few months after an incident occurs. Over longer time scales, information specific to the particular incident would most likely be gathered and used to refine guidelines in the handbook. This information would include the effectiveness of actions taken and other consequences of the countermeasures adopted to manage the specific situation. The handbook would continue to act as a useful information source during this phase.

After an accident or incident involving radioactive contamination, there are two important aspects to consider: protecting health and preserving the quality of food. The spread of contamination creates a complex situation affecting health, agriculture and economics. It involves nearly all sectors of the population. What is needed is a framework or plan to enable areas with long term contamination to return to normal living conditions. The framework set out in the recovery handbook provides a way of co-ordinating an approach involving all those affected by the incident, including the direct involvement of the public and local professionals.

The handbook is a compilation of reliable, consistent and detailed information to help users identify the important issues and evaluate the options for a radiation incident. It is divided into colour coded sections, each representing a different topic area as follows:

Yellow Recovery and Radiation Protection
Green Agricultural food production
Orange Domestic food production and the gathering of free foods
Purple Inhabited areas
Blue Drinking water

The first section (Yellow) introduces the recovery phase and radiation protection principles and summarises the broad steps in developing a recovery strategy. These include dividing the contaminated area into bands, which are then prioritised based on the urgency of need for decisions. For each band, the handbook sets out further steps to be taken such as determining land uses, implementing a monitoring strategy, and identifying and evaluating feasible recovery options. Throughout this process, users will require a significant amount of information to support decisions on timely and effective actions and countermeasures.

The section on Recovery and Radiation Protection also helps the user to identify which of the other colour-coded sections are relevant for further information on a particular topic area. These sections contain legislative and radiological information, descriptions of the recovery options, decision trees to assist in the choice of options and a number of comprehensive data sheets.

This Science Summary relates to information from Project SC030164 (P3-105). There is no separate Environment Agency Report for this project. The output from the project is available in the following HPA Handbook:

UK Recovery Handbook for Radiation Incidents

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