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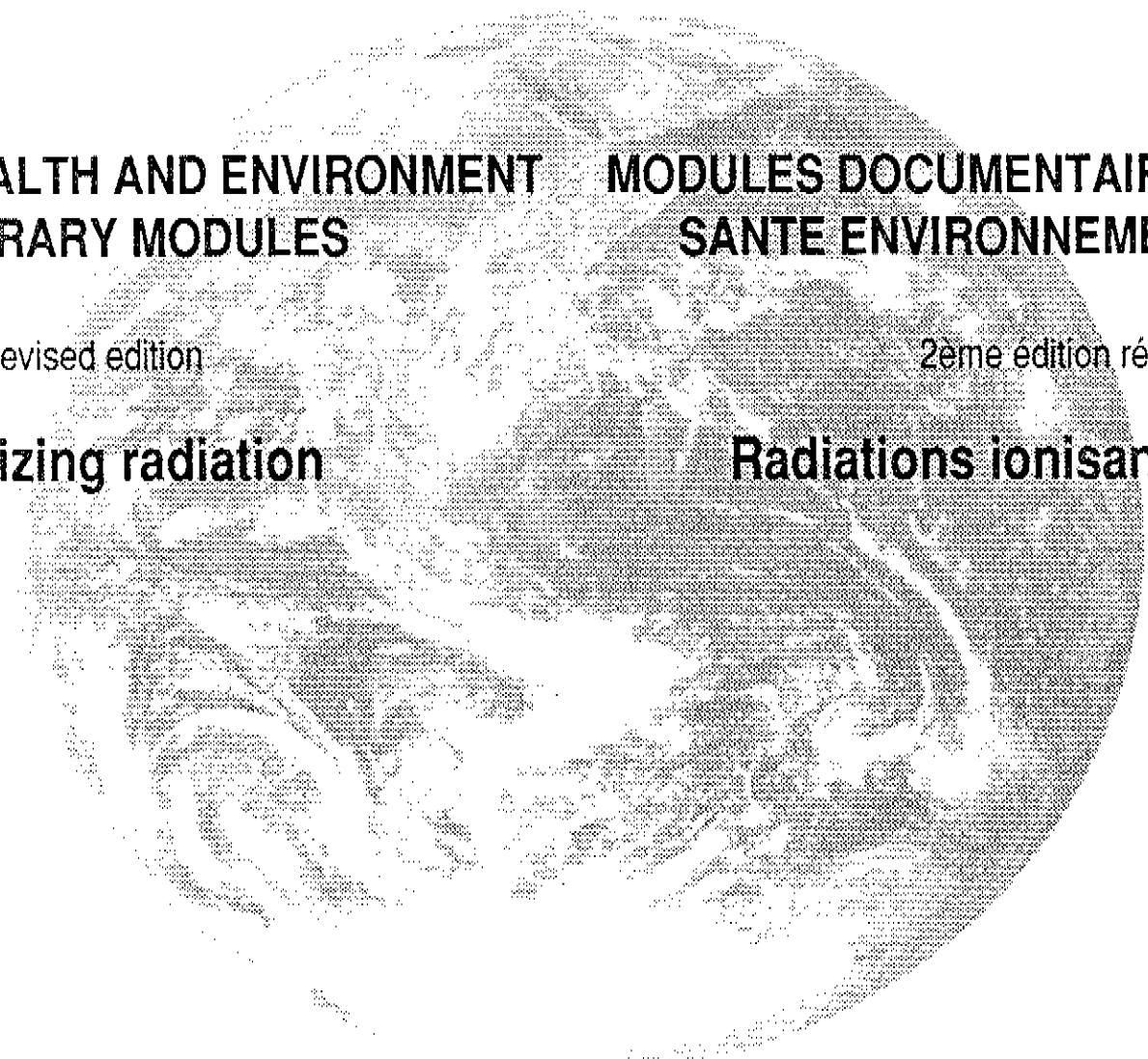
**MODULES DOCUMENTAIRES
SANTÉ ENVIRONNEMENT**

2nd revised edition

2ème édition révisée

Ionizing radiation

Radiations ionisantes



World Health Organization
Office of Global and Integrated Environmental Health
Geneva

Organisation mondiale de la Santé
Bureau de l'Hygiène du Milieu intégrée et mondiale
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For many years, WHO has been studying the health and environmental risks of ionizing radiation and has presented detailed reports on the effects of nuclear war on health and the health services. The threat of such a catastrophe is now remote and a nuclear war is unlikely. However, nuclear power production is still an issue of concern and several decades of work by the World Health Organization on the impact on health of nuclear energy production have resulted in the publication of various reports on this topic. Finally, the major accident which occurred on 26 April 1986 in one of the four reactors of the Chernobyl nuclear power station in Ukraine has fostered the establishment of the International Programme on the Health Effects of the Chernobyl Accident, under the auspices of WHO to provide support to the health authorities of the three affected countries and also to consolidate the experience gained from treatment of over-exposure to ionizing radiation, and thereby improve medical preparedness and to acquire data in the fields of radiation epidemiology and medicine of disasters.

The present module presents 11 publications and documents which represent the core literature list recommended to GELNET libraries on this topic.

L'OMS étudie depuis de nombreuses années les dangers des rayonnements ionisants pour la santé humaine et pour l'environnement et a présenté des rapports détaillés sur les effets d'une guerre nucléaire sur la santé et les services sanitaires. La menace d'une catastrophe de ce genre s'est éloignée et l'éventualité d'une guerre nucléaire est désormais peu probable. Cependant, la production d'énergie nucléaire reste une cause de préoccupation et plusieurs décennies de travail sur les conséquences sanitaires de la production d'énergie nucléaire ont eu pour résultat la publication de rapports divers. Enfin, le grave accident qui s'est produit le 26 avril 1986 dans l'un des quatre réacteurs de la centrale nucléaire de Tchernobyl en Ukraine a entraîné la mise en place, sous la responsabilité de l'OMS, du Programme international sur les conséquences sanitaires de l'accident de Tchernobyl. Ce programme a pour objectif d'apporter une aide aux trois pays concernés et de consolider l'expérience acquise dans le traitement des contaminations radioactives, permettant ainsi d'améliorer la préparation médicale et d'obtenir des données dans le domaine de l'épidémiologie de la contamination radioactive et de la médecine d'urgence.

Ce module présente 11 publications et documents qui constituent la liste minimum de références sur ce sujet que devraient détenir les bibliothèques GELNET.

1

Nuclear power: accidental releases. Practical guidance for public health action. Report of a WHO meeting, Mol, Belgium, 1-4 October 1985. Copenhagen : WHO Regional Office for Europe, 1986. 46 p WHO Regional Publications. European Series ; 21 (E)
ISBN 92 890 1112 2
Sw.fr. 10.-/In developing countries: Sw.fr. 7.-
Order no. 1310021

Abstract:

This report gives practical guidance on how the authorities should deal with and accident in any type of nuclear installation whether it involves accidental releases to the air or into water. It summarizes the range of accidents for which plans need to be made to protect the public, the measures to be taken and the levels of dose at which they should be applied. It indicates how to measure the levels of exposure. It then outlines the problems faced by public health authorities and medical practitioners, and the administrative arrangements that will have to be made. The example used is of a standard pressurized light water reactor of the type currently used for electricity generation, but many of the features will be common to other nuclear installations as well

2

Health hazards from radiocaesium following the Chernobyl nuclear accident. Copenhagen : WHO Regional Office for Europe, 1987. 42 p EURO Environmental Health Series ; 24 (E).
Unpublished document

Abstract:

This document focuses on the health implications of radiocaesium. It includes the health impact, dose reduction, preparedness of national authorities to deal with such releases and informing of the public

3

Nuclear accidents and epidemiology. Copenhagen : WHO Regional Office for Europe, 1987. 84 p. EURO Environmental Health Series ; 25 (E). Unpublished document

Abstract:

This document reports on epidemiology related to the Chernobyl nuclear accident and on appropriate methodologies for studying possible long-term effects of radiation on individuals exposed in a nuclear accident.

4

Derived intervention levels for radionuclides in food: guidelines for application after widespread radioactive contamination resulting from a major radiation accident. Geneva : World Health Organization, 1988. 60 p. (E F S)

ISBN 92 4 154233 0

Sw.fr. 11.-/In developing countries: Sw.fr. 7.70

Order no. 1150288

Abstract:

Meets the need for guidance in managing the public health problems posed by widespread contamination of food and drinking-water following a major nuclear accident. Intended to help national authorities introduce appropriate protective measures, the book presents guidelines for the calculation and application of derived intervention levels below which action to reduce or avoid the potential health detriment would not be justified. Guideline values are specific to the problems created when substantial releases of radionuclides spread to regions far from the accident site. Calculated guideline values are presented for seven food groups and for drinking-water, with separate guideline values given for infants on a milk diet. The book also offers guidance in calculating the cost-benefit of countermeasures, country-by-country tabulations of food consumption data, and an elaboration of factors that can influence the distribution of radiation dose in a mixed population. The book concludes with sample calculations for determining situation-specific derived intervention levels.

5

Nuclear accidents: harmonization of the public health response. Report on a WHO meeting, Geneva, 10-13 November 1987. Copenhagen : WHO Regional Office for Europe, 1989. 111 p. EURO Reports and Studies ; 110 (E)

ISBN 92 890 1276 5 Price: Sw.fr. 10.-

Sw.fr. 10.-/In developing countries: Sw.fr. 7.-

Order no. 1330110

Abstract:

The main aim of this working group was to provide appropriate advice for the harmonization of public health measures in Europe, to minimize the possible harm to health resulting from widespread radioactive contamination following a nuclear accident. To accomplish its task the Group reviewed the experience gained from the Chernobyl

accident and recommended further essential follow-up activities

6

International Programme on the Health Effects of the Chernobyl Accident. Geneva : World Health Organization, 1993. 19 p (E)
WHO/PEP/93.14. Unpublished document

Abstract:

In 1991, the World Health Assembly approved the establishment of the International Programme on the Health Effects of the Chernobyl Accident (IPHECA). The Programme provides support to the health authorities in Belarus, the Russian Federation and the Ukraine in dealing with the aftermath of the accident, and is intended to serve as a unifying framework for all international health related activities arising from the accident carried out in the three countries. This document outlines the Programme's objectives, structure, accomplishments and future plans. As a background, it also provides a brief overview of the accident and of its current and potential impact on health in the three countries

7

Nuclear power and health: the implications for health of nuclear power production. Copenhagen : WHO Regional Office for Europe, 1994. 145 p WHO Regional Publications, European Series ; 51 (E)

ISBN 92 890 1315 X

Sw.fr. 26.-/In developing countries: Sw.fr. 18.20

Order no. 1310051

Abstract:

Nuclear production is, in principle, a safe technology but management failures have resulted in accidents and occasional radiation leaks. Objective assessments are urgently needed of the relative risks of different energy options, particularly the nuclear option. This book updates various reports by the WHO Regional Office for Europe on this topic and consolidates them in one volume. It details the nuclear fuel cycle, describes the effects of radiation on health in both normal and accident conditions, compares alternative sources of electrical energy, discusses the danger of malevolent use of nuclear materials and gives guidance on how to keep the public informed.

8

Health consequences of the Chernobyl accident: results of the IPHECA pilot projects and related national programmes. Scientific report. Geneva : World Health Organization, 1995. (E). WHO/EHG/95.19

Abstract:

This report contains detailed scientific information provided by experts from Belarus, the Russian Federation and Ukraine, and reviewed by international experts. It is a text for specialists in radiation medicine, human radiobiology, dosimetry and radiation protection. The major conclusions of this document have been included in the separately published Summary Report written for widespread distribution in a style which can be understood by the informed general public

9

Health consequences of the Chernobyl accident: results of the IPHECA pilot projects and related national programmes. Summary report. Geneva : World Health Organization, 1995. (E)

Abstract:

This report summarizes the findings of a series of projects carried out over several years, to discover what effects continued exposure to the radiation of Chernobyl has had on ordinary people in Belarus, the Russian Federation and Ukraine. The projects, supported by IPHECA, specifically examined thyroid cancer, blood diseases, fetal brain damage and oral health problems but looked for other health effects too

10

International Programme on the Health Effects of the Chernobyl Accident: report by the Director-General. Geneva : World Health Organization, 1995. 9 p (A C E F S)
A48/12

Abstract:

This report presented at the 48th World Health Assembly covers the progress made in the implementation of the International Programme on the Health Effects of the Chernobyl Accident, and summarizes the scientific information obtained to date on the health effects, and provides new information on planned activities

11

International basic safety standards for protection against ionizing radiation and for the safety of radiation sources. Vienna : International Atomic Energy Agency, 1996. 353 p
Safety series ; 115 (E)
ISBN 92 0 104 295

Abstract:

The Standards are jointly sponsored by the Food and Agriculture Organization of the United Nations (FAO), the International Atomic Energy Agency (IAEA), the International Labour Organisation (ILO), the Nuclear Energy Agency of the Organisation for Economic Co-operation and Development (OECD/NEA), the Pan American Health Organization (PAHO) and the World Health Organization (WHO). The purpose of the Standards is to establish basic requirements for protection against the risks associated with exposure to ionizing radiation and for the safety of radiation sources that may deliver such exposure. They are intended to ensure the safety of all types of radiation sources and to complement standards already developed for large and complex radiation sources, such as nuclear reactors and radioactive waste management facilities. For these sources, more specific standards, such as those issued by the IAEA, are typically needed to achieve acceptable levels of safety. The Standards are limited to specifying basic requirements of radiation protection and safety, with some guidance on how to apply them. General guidance on applying some of the requirements is available in the publications of the Sponsoring Organizations and additional guidance will be developed as needed in the light of experience gained in the application of the Standards.

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