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REQUIREMENTS FOR INTERVENTION

3.1 INTERVENTION SITUATIONS

(215) An intervention situation is deemed to be:

- (a) a long standing situation involving naturally occurring radioactive substances, including radon, in which it is feasible and justified to reduce the doses due to such substances;
- (b) a situation in which it is feasible and justified to reduce exposures from radioactive residues from previous events such as [contamination from] accidents or [fallout from] nuclear weapons testing;
- (c) a declared accident or emergency situation or a situation in which an emergency plan has, or emergency procedures have been invoked.

3.2 BASIC OBLIGATION

(216) In order to reduce the dose incurred by people in intervention situations, the Intervening Organization should undertake protective actions, provided that the proposed intervention does more good than harm and that its form, scale and duration are optimized so that they are the most appropriate under the prevailing conditions.

(217) For the purpose of these Standards, an Intervening Organization is any legal person with recognized rights and duties for prescribing intervention or for intervening in order to reduce radiation exposures and, in some cases, for the preparation, development or execution of off-site emergency plans or parts of such emergency plans. (The Intervening Organization may be the Regulatory Authority itself.)

(218) The requirements for intervention are in addition to any requirement for practices that relate to emergency situations and the prevention, mitigation and management of accidents and to the responsibilities of the Operating Organization and are not in replacement thereof.

3.3 REGULATORY SYSTEM FOR INTERVENTION

3.3.1 Organizations and Responsibilities

(219) When the need for intervention has been identified as originating from a long standing situation, the responsibility for the intervention will be assigned by the appropriate Intervening Organization.

(220) When the need for intervention is foreseen as a result of an accident or emergency in a practice or a source, the responsibility for intervention shall rest with:

- (a) The Operator for on-site intervention;
- (b) The Intervening Organization and, if appropriate, the regional, provincial or state government, for off-site intervention.

Notwithstanding the foregoing, the Operator shall make every possible effort for ensuring that all parties to the implementation of the intervention are in agreement and are under obligation to do so.

(221) When protective measures which were not foreseen in the emergency plan are proposed, they shall be subject to approval by the Regulatory Authority or a Qualified Expert if there is sufficient time for such approval.

3.3.2 Notification

(222) The Operating Organization shall ensure that the Regulatory Authority and the Intervening Organization are notified that an intervention situation has arisen as a result of an accident or emergency.

(223) The Operating Organization shall keep the Regulatory Authority and any relevant Intervening Organization informed:

- (a) of the intervention situation as it develops and as it is expected to develop, and
- (b) of the measures taken for the protection of the public and the workers and of the exposures that have been incurred or that are expected to be incurred.

3.4 THE SYSTEM OF PROTECTION FOR INTERVENTION SITUATIONS

3.4.1 Justification of Interventions

(224) The possible protective actions associated with an intervention situation shall be assessed to ascertain if each proposed action or combination of actions is justified such that it would be likely to do more good than harm to the individuals affected by the protective action, and such that the doses averted and any other benefits of the protective action would outweigh the economic and social costs of the intervention.

3.4.2 Optimization of Interventions

(225) Intervention levels shall be optimized such that the form, scale and duration of the justified protective actions maximize the net benefit expected from the intervention:

(226) The dose limits and constraints required for practices do not apply to intervention situations. However, if the level of projected dose is higher than those levels given in Appendix VI, a prompt intervention to prevent such doses is likely to be justified under any circumstances.

3.5 ASSESSMENTS

(227) In carrying out assessments for intervention, account shall be taken of:

- (a) the individual and collective exposures averted by implementing protective actions;
- (b) non-radiological health risks of implementing the protective actions;
- (c) the financial and social costs of implementing protective actions;
- (d) the financial and social benefits of implementing protective actions;
- (e) the likelihood that protective actions would provide a net benefit in uncertain future conditions.

3.6 REQUIREMENTS FOR LONG STANDING SITUATIONS

3.6.1 Remedial Action Plans

(228) When an intervention situation that is not an accident or emergency situation is deemed to exist, a remedial action plan shall be prepared by the relevant Intervening Organizations and approved by the Regulatory Authority prior to its execution. The responsibility for the preparation of the plan may be delegated to local, regional or national organizations on a case by case basis.

(229) A remedial action plan shall include a description of the existing situation, the justification for intervention, the choice of the protective measures and optimized intervention levels, and a detailed plan of action. A remedial action plan shall be accompanied by implementing procedures whenever warranted.

3.6.2 Dwellings

(230) If a long standing intervention situation exists in dwellings, before remedial action is undertaken to reduce the exposure, including exposure to radon, a remedial action plan shall be drawn up specifying action levels.

(231) Action levels shall be established for the action being proposed, using optimization procedures and taking into account:

- (a) the reduction in risk expected to result from the action or combination of actions;
- (b) social risks and costs of the remedial actions;
- (c) the financial costs of the remedial actions;
- (d) the financial liability for the remedial actions;
- (e) whether the affected people by remedial actions are affected voluntarily or involuntarily.

(232) For owner-occupied dwellings, the decision to take remedial actions shall rest with the owner, who should take into account the action levels and remedial measures recommended by national authorities.

(233) For rented buildings, national action levels should be established.

3.6.3 Intervention Levels

(234) If remedial actions are fairly simple, intervention levels for long standing situations should be in the region of the indicative values given in Appendix VII. The intervention levels for severe or disruptive remedial actions may be several times these values.

3.7 REQUIREMENTS FOR ACCIDENTS AND EMERGENCIES

3.7.1 Emergency Plans

(235) The Operating Organization shall prepare emergency plans to the satisfaction of the Regulatory Authority as one of the requirements for obtaining the operating licence or authorization. The need for an emergency plan and its extent shall depend on the results of a safety analysis and on lessons learned from the operation and from accidents that have occurred in sources of similar types, as appropriate.

(236) For potential large scale accidents, separate but interconnected plans shall be prepared for on-site, off-site and transboundary areas, as applicable. The on-site plan shall be prepared by the Operating Organization. The off-site plan shall be prepared by the relevant authority and the transboundary plan shall be prepared by the relevant Government authority. The Operating Organization shall make all feasible efforts to assure that all parties involved in the implementation of the plans and in operations under accident conditions are in agreement and under obligation to act.

(237) Emergency plans shall cover, as applicable: planning assumptions, remedial actions resulting from a justification and apt assessment and intervention levels resulting from an optimization assessment, methodology and instrumentation for the assessment of the accident and its potential consequences, methodology for the operational assessment of the consequences of the accident, both on-site and off-site, the emergency organization and its facilities, auxiliary (fire-fighting, medical, police etc.) assistance, communications and public information aspects.

(238) The plan shall be periodically reviewed and updated, as specified in the licence or as agreed with the Regulatory Authority.

(239) Provisions shall be made for training and exercising the personnel involved in implementing the plan.

(240) The plan shall be accompanied by implementing procedures which cover all aspects detailed in the plan. These shall include specifications of conditions that may trigger decisions for interventions, procedures for the notification or recruitment of personnel during emergency situations, for manning facilities and posts, communication methods, monitoring and record keeping, public and media notification and the application of protective measures, training and exercising, and maintenance of equipment.

3.7.2 Intervention Levels for Accidents and Emergencies

1 3.7.2.1 General

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3 (241) Intervention levels shall allow for sufficient flexibility to take account of the circumstances
4 that prevail when urgent intervention actions might be needed, but shall normally lie within a
5 specified range of values.

6
7 (242) The values of intervention levels included in emergency plans shall be used initially as
8 criteria for implementing protective actions, along with considerations of the prevailing
9 circumstances and likely evolution of the circumstances.

10
11 (243) The maximum value of an intervention level shall be the level above which a protective
12 action would almost always be justified because the accumulated exposure of any individual would
13 likely lead to serious prompt injury; in such circumstances, any decision not to take action shall
14 be subject to justification.

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16 (244) Indicative guidance on generic intervention levels for urgent protective actions are given
17 in Appendix VII.

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19 3.7.2.2 Withdrawing Food Supplies and Drinking Water

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21 (245) Approved intervention levels for the withdrawal or substitution of specific supplies of food
22 and drinking water shall be specified in emergency plans as appropriate. Indicative guidance on
23 generic intervention levels for the withdrawal and substitution of food supplies and of drinking
24 water are given in Appendix VII. Any decision not to take action above these levels shall be
25 subject to justification.

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27 3.7.2.3 Agricultural and Hydrological Protective Actions

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29 (246) Agricultural, hydrological and other technical or industrial protective actions shall be
30 considered for reducing exposures to values that are as low as reasonably achievable, economic

1 and social factors being taken into account. These values may be less than those specified in
2 Appendix VII for the withdrawal and substitution of food supplies.

3
4 (247) Reference levels may be specified in emergency plans as trigger levels for considering the
5 application of agricultural or industrial protective actions, and should be derived on the basis of
6 an optimization analysis.

7 8 3.7.2.4 Food Moving in International Trade

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10 (248) The guidance levels for use in regulating the international trade of food that has been
11 contaminated with radionuclides following an accident shall be those specified in Appendix VII.
12 When the guidance levels are exceeded, Regulatory Authorities should decide whether and under
13 what circumstances the food should be distributed within their territory or jurisdiction.

14 15 3.7.2.5 Intervention Levels for Temporary Relocation

16
17 (249) Emergency plans shall stipulate intervention levels for temporary relocation of exposed
18 groups of the population. Indicative guidance on generic intervention levels for temporary
19 relocation is given in Appendix VII.

20 21 3.7.2.6 Generic Intervention Levels for Permanent Resettlement

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23 (250) Emergency plans shall stipulate values for consideration by the Regulatory Authority for
24 permanent resettlement of groups of the population. Indicative guidance on generic intervention
25 levels for permanent resettlement is given in Appendix VII.

26 27 3.8 TRANSITION FROM INTERVENTION TO NORMAL SITUATIONS

28 29 3.8.1 Continuation of Intervention

(251) Any justified and optimized protective action that is implemented shall be continued until a further assessment shows that continuation of the action is no longer justified; i.e., the individual exposures after cessation of the action would not exceed the maximum value of any applicable intervention level.

3.8.2 Return to Normal after an Emergency Intervention Situation

(252) A normal situation is deemed to exist following an intervention situation:

- (a) with respect to the population when no further intervention is justified;
- (b) with respect to workers when the cause of the situation no longer exists and the working conditions permit the resumption of the regular constraints on occupational exposure.

3.9 ASSESSMENT AND MONITORING DURING AN EMERGENCY INTERVENTION SITUATION

(253) All reasonable steps shall be taken to assess exposures received by members of the public exposed during an intervention situation, and the results of the assessments shall be made available to the public.

(254) The assessment may be made by selective or comprehensive measurements of doses by measuring parameters which could be related to dose, or through calculations when no measurements have been made.

(255) The assessments shall be promptly updated in the light of any information that would produce more realistic results.

(256) Comprehensive records shall be maintained of assessments and their updates, and of monitoring results for the public, workers and the environment.