Chapter 8: Early Countermeasures within the Detailed Emergency Planning Zone

Updated March 2004

8.1 Scope

8.1.1 This chapter describes the principles that need to be applied in considering early countermeasures within the detailed emergency planning zone in the event of an emergency at a civil nuclear site.

8.2 General

8.2.2 An approach should be adopted in drawing up emergency plans which ensures, where possible, that when a decision on countermeasures has been taken it would not be revised at a later stage during the emergency. This is to help avoid uncertainty and minimise demands on the emergency services. For example, it would place a considerable additional burden on police resources if say, a decision was taken to advise the public to shelter, and then a short while later, a decision was taken to advise the public to evacuate (see paragraphs 8.2.3 and 8.2.4 below). Nonetheless, plans should be sufficiently flexible so that if changes were necessary, then they could be accommodated.

8.2.3 Appropriate self-help measures should be encouraged as they would provide public reassurance. This might, for example, apply to sheltering triggered at some sites by the sounding of the site siren, or by media or police announcements. Self-evacuation by members of the public should not be encouraged as this could lead to severe road congestion, accidents and may increase the exposure from radiation in the environment.

8.2.4 Regular communication with the affected population is necessary. This should be done by making full use of local radio and television broadcasts.

8.3 Countermeasures

8.3.1 In the event of an accident at a large civil installation, it is necessary to consider both the potential radiological benefits and the practical implications of any countermeasures that might be advised. The National Radiological Protection Board (NRPB) has issued guidance on the former [NRPB Documents Volume 1 No 4 1990[5] and Volume 8 No 1 1997[6]] and is currently considering the implications of the 2nd Working Group on Stable Iodine Prophylaxis on its guidance. Until NRPB publishes the outcome of this review, it advises that its guidance should form the basis for discussions between the operator, the police, the local authority and the Director of Public Health on what is the most appropriate course of action to plan for in that area.

8.3.2 Precautionary countermeasures should be considered in the event of a threatened accident. Precautionary evacuation could save all dose and would help the police and local authorities implement further countermeasures more speedily if the threatened accident materialised.

8.3.3 The framing of advice on countermeasure implementation should always take account of potential future food restrictions as described in section 12.6.

Sheltering

8.3.3 Plans should consider how sheltering might be implemented, particularly for circumstances where it would not be appropriate to implement pre-planned evacuation procedures on the declaration of an off-site emergency. For example:

(a) if the release is not serious and is not expected to escalate;

(b) where particular severe weather conditions make evacuation a hazardous procedure;

(c) if there is another hazard, eg a toxic release which gives immediate danger and sheltering would offer more protection than evacuation; and

(d) where evacuation may cause harm to vulnerable groups, eg elderly persons in residential care.

8.3.4 When the risk has passed, sheltering should be terminated and buildings should be ventilated as soon as possible, in order to minimise exposure to radioactive material which may have penetrated the building.

Evacuation

8.3.5 In all cases, there is a need to plan for evacuation. Where the magnitude, timing and duration of a release is uncertain but suggests that evacuation may be needed, then evacuation should be recommended. At some sites, local circumstances will be such that the combination of evacuation and potassium iodate tablets will be the prime planned countermeasures.

Potassium Iodate Tablets

8.3.6 The issue of potassium iodate tablets is considered an important countermeasure in certain accident scenarios. Pre-planned arrangements should be agreed in advance, to ensure that distribution is carried out at an early stage. Tablets could be distributed in a number of ways which might include:

(a) pre-distribution by the operator, local authority or local health authority to evacuation reception centres, schools and some households.

(b) distribution on the day by local authorities or local health services at the reception centres.

Where the emergency plan includes the countermeasure of sheltering, these pre-planned arrangements must include agreed procedures for distributing potassium iodate tablets to a sheltering population.

8.3.7 The Director of Public Health should take the lead in drawing up arrangements for the distribution of potassium iodate tablets in consultation with the operator, local authority and emergency services, within the framework of existing planning procedures.

8.3.8 Such contingency planning will also need to reflect specific local situations and other problem areas, eg individuals who are unable or unwilling to evacuate.

8.3.9 The provision of potassium iodate tablets to the local authority/local health services will be the responsibility of the operator.

8.3.10 The distribution and storage of potassium iodate tablets at reception centres and other pre-distribution points, including local police stations, will be the responsibility of the local authority/local health services, and should be set out in local emergency plans.

8.3.11 Health guidance should be issued with the tablets (or printed on the pack), in all circumstances, so that there will be independent advice on their use.

8.3.12 The local Director of Public Health would be responsible for authorising the issue of potassium iodate tablets to members of the public. He/she would need to work in close liaison with other members of the strategic co-ordinating group over the decision to ensure its effective implementation.

8.3.13 The appropriate countermeasures where the radioactive release does not include a significant amount of radioiodine, are a combination of sheltering and evacuation. The extent of sheltering and evacuation should be kept under review during an emergency in the light of issues relating to the prevailing technical prognosis, the situation off-site and the potential resource of emergency services.

8.3.14 In the event of an accident where there was no requirement for the issue of potassium iodate tablets the public should be told that there has been no release of radioactive iodine, therefore potassium iodate tablets will not be needed.

8.4 Conclusion

8.4.1 These countermeasures, or any combination of these countermeasures, would be deployed in any potentially affected areas if either the accident conditions or an assessment of the accident indicated that the public were at risk. The decision would be taken on the day in the light of circumstances.