

A PRE-DISTRIBUTION STRATEGY FOR POTASSIUM IODATE PROPHYLAXIS

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ABSTRACT

Three options exist with respect to nuclear emergency stable iodine prophylaxis: pre-distribution; reactive distribution; and evacuation of a downwind threatened population when measured levels of radioactive iodine in air reach a level equivalent in dose terms to the nationally defined lower emergency reference level or locally pre-planned intervention level for administration of stable iodine. The latter options have the potential disbenefits of delays and injury caused by a necessarily largely unrehearsable response. The first option, having the virtue of being capable of implementation before an accident occurs, has been adopted as the preferred strategy for Cumbria.

INTRODUCTION

Cumbria is 'host' or near neighbour to several licensed nuclear sites, and transport of substantial quantities of nuclear materials occurs by road, rail, air and sea routes into, through and over the County. Characteristics of the areas surrounding the two nuclear sites in Cumbria are strikingly different, particularly with respect to the scale and composition of detailed emergency planning zone (DEPZ)/automatic countermeasures zone (ACZ) prescribed for each of these:

	BNFL Sellafield	Marconi Marine VSEL Barrow-in-Furness
DEPZ/ACZ* (km)	2	0.55
Population within DEPZ/ACZ	53	1 388
Population within 3xDEPZ/ACZ	6 722	39 131
Schools within 3xDEPZ/ACZ	5	19
Care Establishments within 3xDEPZ/ACZ	1	12

*Detailed Emergency Planning Zone/Automatic Countermeasures Zone

Figure 1: Some demographic features of two 'nuclear host' areas of Cumbria

METHODS

The authors have for several years been conspicuous amongst individuals and organisations committed to enhancement of emergency preparedness around nuclear sites in Cumbria. A strategy for stable iodine is, of course, only one element of a culture of preparedness for nuclear accidents that has been inculcated in Cumbria by programmes of planning, training and exercises¹⁻³. All arrangements that have been put in place have been discussed beforehand

