

Safety Assessment of the Transport of ILW and LLW to a Centralized Facility in the UK

B. Sievwright, D. Huchinson, Nirex

To provide a basis for developing waste packages that are compatible with future phases of waste management, Nirex has developed standards and performance specifications for radioactive waste packages. It also provides detailed advice to the UK waste producers on the suitability of specific packaging proposals against the foreseen requirements for future storage, transport, handling and potential disposal. To be confident that the advice for today's packaging decisions fully reflects future transport needs, Nirex has undertaken planning studies to identify the key issues associated with future transport operations. The study described in this paper is a transport risk assessment conducted for the range of ILW and LLW that Nirex is considering. The assessment concludes that such a transport operation should be able to comply with national and international safety principles, and that the conventional and radiological risks to the public and workers from routine transport and from accidents would be acceptable. An unusual facet of the assessment is its generic UK basis. Decisions on future UK waste management strategy are subject to proposed Government consultation. The adopted approach assumes that transport would be to a centralized facility located at the center of any one of ten zones of the Great Britain mainland, or to a location on an off-shore island site. The scope of the assessment covers the transport of waste between the waste-producing and waste-receiving site boundaries only, including transshipment at railheads and ports. Complementary assessments of safety during operations at the Nirex phased disposal facility, and closure of such a facility, have also been conducted. The paper describes the further development of the assessment into an automated spreadsheet-based PC toolkit, which can be used to determine the significance of a specific packaging proposal by considering its effect on the overall transport risk. This assessment provides one input into the Nirex advice for today's production and regulatory decisions.