Health and Safety Executive

Radiation (Emergency Preparedness and Public Information) Regulations

Regulatory Impact Assessment

Purpose and Intended Effect

Issue

1. The Radiation (Emergency Preparedness and Public Information) Regulations (REPPIR) are intended to implement articles 48 to 52 on intervention in cases of radiation emergency in an European Council Directive on the basic safety standards for the protection of the health of workers and the general public against the dangers arising from ionising radiation (Euratom BSS96 Directive). These proposals are made in conjunction with the Department of Trade and Industry (DTI), the Scottish Executive, and the Department of Transport, Local Government and the Regions (DTLR).

Risk Assessment

2. Where there is potential for a radiation emergency, a risk assessment must be carried out which covers employees, and any other people, likely to be exposed. Employers should take reasonably practical steps to prevent an emergency, and where this fails, to limit its consequences by providing training, equipment and information to limit exposure. A risk assessment must be reviewed if it is more than three years old, or the nature of the work changes.

3. Because the impacts on peoples' health and the environment from a radiation emergency are so great, safety measures to prevent, or at least limit, them need to be rigorously adhered to. The need for an emergency plan that covers the operators using and rail carriers transporting radioactive substances of the type being considered by these regulations is therefore an essential safety measure that will hopefully lessen the effects that a radiation emergency will bring.

Objectives

4. REPPIR has been drafted to implement the emergency preparedness aspects of the Euratom BSS Directive for premises and transport by rail. Transport by road, air and sea/inland waterways will be implemented by DTLR through modal legislation for these transport modes. There are four key objectives of REPPIR, which are:

a. to subsume the relevant aspects of the Public Information for Radiation Emergency Regulations 1992 (PIRER), which implement an earlier Euratom Directive;

b. to ensure that duties in both the Ionising Radiations Regulations 1999 (IRR99) and REPPIR are consistent for the benefit of dutyholders;

c. to maximise consistency on emergency preparedness between regulations for different industries, particularly with the Control of Major Accident Hazards

Regulations 1999 (COMAH), for the benefit of all stakeholders; and

d. to ensure consistency with the emergency preparedness arrangements for nuclear licensed sites.

Options

5. Since the proposals aim to implement a European Directive, secondary legislation is required to put the proposals into effect. However, the Directive does not include administrative details and timescales to give effect to these aims. Where we have had some flexibility, we have referred to tried and tested administrative arrangements, for example those in IRR99 and PIRER.

Information Sources and Background Assumptions

6. The majority of the information used in the preparation of this RIA has been provided by the Safety Policy Division (SPD) of HSE which leads in implementation of this set of proposals. Use has been made of a report entitled 'Current Practice in the Testing of Emergency Plans,' commissioned by SPD and undertaken by the Health and Safety Laboratory. This gives some estimates of costs involved in testing emergency plans.

Benefits

7. If there were a nuclear accident, a plan would aid and enable provision of an effective, thorough and coordinated response. While the possibility of such an accident is remote and this benefit unlikely to be realised, the knowledge that local authorities (LAs) have adequate plans to deal with an emergency should reassure the public about nuclear safety. Public acceptance of nuclear power must rely on that reassurance.

8. The main benefits it can be argued, therefore, are greater public awareness that emergency arrangements are in place to deal with potential radiation emergencies.

Compliance Costs and Business Sectors Affected

Operators' costs

9. Some of REPPIR's requirements are already covered by existing nuclear site license conditions. In particular, these include requirements relating to the hazard assessment and risk evaluation (covered by the safety report) and the operator's emergency plan (covered by the emergency arrangements). In such cases, it will not be necessary to duplicate arrangements, as those already operating under nuclear site license conditions will be considered to satisfy many aspects of REPPIR.

Testing of operators' and off-site emergency plans

10. Usually each organisation bears its own costs and see the costs of participating in an exercise as part of the 'normal' working day. Attempts to cost these exercises are quite recent. They were motivated by possible charging by LAs and emergency services under the COMAH Regulations 1999, which implement the Seveso II Directive.

11.Two nuclear site operators provided approximate costs of an emergency exercise required under the Nuclear Installations Act 1965. There are three testing levels: level one covers on-site arrangements and costs were estimated at around £25,000; level two exercises deal with off-site emergencies and are thus more likely to involve the emergency services. Level two exercises are carried out once every three years and costs were estimated at around £50,000; level-3 exercises which tests the response of Government Departments, for all organisations, running for 36 hours with nine months planning were costed at £500,000 by one operator. Part of the overall cost would also be planning the exercise, and in joint review after it had finished. The operator's planning costs were around £20,000, which is approximately 60% of the total planning effort. DTI have advised that the typical duration for a level-3 test based on recent experience is between 8 and 14 hours, and thus costs could be less as much of the cost stems from the numbers of staff (some very senior) involved over the period of the exercise.

12.These emergency exercises are already a requirement for nuclear licensed sites under the Nuclear Installations Act. The licensed nuclear sites have a statutory duty under current legislation to carry out a full test of its off-site emergency plan every three years. This is a level-2 test. The level-2 tests are legal requirements for the licensee at the moment but not for the emergency services or local authorities. The costs above are indicative for the industry at present and the introduction of REPPIR is unlikely to change these figures a great deal.

13. However, there are new requirements in REPPIR which will introduce new costs. Firstly, there is now a duty on LAs to prepare, review, revise and test off-site emergency plans for fixed sites and test carrier's emergency plans (regulations 9 and 10). Secondly, LAs may charge operators a fee for their involvement in emergency planning work, which includes the attendance of the emergency services during testing of emergency plans (regulation 12).

14. Local authorities would be involved both at the planning and execution stage. It seems likely that LAs costs would be no more than one-fifth of the total cost to the industry, or around £10,000 in total - of which perhaps £1,500 may be in planning, £8,000 in attendance of personnel during the exercise and £500 in review and any subsequent action. This would represent around 10 personnel days preparatory work, 3 days in review and subsequent action, and the economic cost of attendance of around forty emergency personnel for one day.

15. Previously, this work was undertaken by local agreement, without any statutory basis for allocating costs. The total costs to operators of LA involvement in the statutory testing of nuclear power generating facilities would be in the region of £25,000 for three exercises over ten years, in present terms.

16. It is believed that some hospital premises and some industrial, transport-related and research premises will be covered by REPPIR. However, it is impossible, at the moment, to quantify the effects that these proposals will have on these establishments. It is unlikely that many of the hospitals or industrial research premises will require off-site emergency plans due to the nature and amount of materials in their inventories. At a maximum, the cost of testing an emergency plan could be as much as the estimates of a live exercise for the nuclear industry as mentioned earlier, but it is more likely to be along the same lines of the costs that will occur under the COMAH Regulations 1999 (possibly around £5,000) . The cost of drawing up a suitable emergency plan, however, is unknown at present.

17. There are a total of between 40 and 42 licensed nuclear sites at any one time. These vary greatly in scale (from power generation facilities to research facilities). Following from the above, if we assume that the LA component of the costs in testing emergency plans in non-power generation facilities is around one-tenth of the costs for power generating facilities, then the total cost of LA involvement in all nuclear emergency plan testing would be around £250,000 in present terms over ten years.

18. These are not additional resource costs, unless the frequency of current testing increases. However LAs would now be able to fully recover this cost, so that this cost may be fully born by industry. The extent to which these costs are additional to the industry depends on current charging arrangements.

Rail carriers' costs

19. In addition to fixed sites, REPPIR will apply to the transport of radioactive material by rail. It has been attempted to draft the Regulations on rail transport in REPPIR to fit around the current voluntary emergency planning and co-operation arrangements which essentially cover the requirements already. This is the RADSAFE transport emergency plan.

20. The operation of RADSAFE is funded by the main consigning organisations. In terms of costs, RADSAFE costs members £5,000 - £6,000 per year. This is for maintaining the plan and for 24 hour manning of the control centre. These costs will simply continue under the proposals, and there is no information on the cost of preparing an emergency plan from scratch available at present.

21. Under the proposals consignors have to provide information to the carrier on the amount

of radioactive material to be transported. Also, the carrier has to add up the total amount of radioactive material in a transport operation to see if it was below the inventory for each transport operation. As this is not common practice at the moment, it is likely to increase costs in terms of the time it takes to perform this procedure.

22. Only one organisation currently carries radioactive goods (in significant quantities) by rail. All but a very small quantity of the radioactive material transported would be in type 'B' packages and therefore exempt from the majority of the requirements of REPPIR. The carrier has existing, comprehensive emergency planning, testing and review procedures in place and therefore, although costs could not be accurately estimated there are not expected to be substantial costs from the new requirements from REPPIR. There would be some costs from familiarisation with the new requirements and assessments of material to be transported.

Hospitals/research establishments' transport costs

23. REPPIR is unlikely to apply to the transport of radioactive materials between hospitals, or to any other similar transport operations, because of the exemptions that have been provided in the proposed Regulations and because they are almost exclusively carried by road.

Implications for LAs

24. A new duty that will be placed on LAs is that they will have to prepare and test off-site emergency plans. However, many LAs already have in place off-site emergency plans for nuclear licensed sites which are tested regularly. It is presumed therefore that the implications for LAs in terms of work done will remain virtually the same. However, LAs will now be able to recover the full cost of this work, so that the costs are born by the industry (see costs to industry, below).

Total costs to industry

25. Total costs to industry are estimated at £280,000 over ten years. The vast majority of this cost relates to the testing of emergency plans (which is undertaken at present), since the local authority will now be able to pass on its costs to industry.

Costs to HSE

26. As HSE staff are already involved in inspecting work with ionising radiation under IRR99 and nuclear site licence conditions, costs are not likely to increase substantially. However, there will be some additional resource implications from the draft REPPIR proposals for the Nuclear Safety Directorate, the Hazardous Installations Directorate and the Field Operations Directorate (including the Railway Inspectorate).

27. There is uncertainty, however, of the additional HSE resource implications for non-nuclear divisions. It is likely to be equivalent to approximately two inspectors per year, if assumptions about the impacts are correct.

Total Costs to Society

28. It is difficult to assess the impacts that these proposed Regulations will have on society in terms of explicit costs. However, we believe that the additional costs of these proposals will be relatively minor, as much of the industry being targeted already have some form of emergency planning present.

29. The majority of the burden will fall on operators (mainly in the nuclear sector) and rail carriers of ionising radiation. Costs incurred by LAs and some of the costs incurred by emergency services may be reimbursed by operators and rail carriers.

Impact on Small and Medium Businesses

30. There is one known medium size businesses (a rail carrier) affected by the proposals (but see rail carriers' costs, above).

Environmental Impacts

31. Any adverse environmental impacts are likely to be lessened as a result of these

proposals. However, this cannot be ascertained for sure due to the small probability of an actual accident occurring.

32. There is no specific requirement in the Regulations to protect the environment itself from ionising radiation, although steps taken to protect human health and costs to society will also provide much protection for the environment.

Balance of Costs and Benefits

33. As benefits, and also costs at the moment, are impossible to quantify, a balance of costs and benefits cannot be given. However, if an emergency were to occur, it could reasonably be presumed that the costs of having prepared and tested an emergency plan will be far outweighed by the benefits that are likely to be recognised as a result of having one.

Monitoring and Evaluation

34. As these proposals have been developed alongside proposals for two other pieces of legislation (the COMAH Regulations 1999 and the proposed amendment to the Pipelines Safety Regulations 1996), it is hoped that this will achieve the aim of maximising consistency on emergency preparedness between regulations. Monitoring and evaluation will therefore be consistent between the regulations.

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