

Identifying public concerns and perceived hazards for the phased disposal concept

**A summary report by
The Future Foundation**

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Introduction

In the UK today there is enough radioactive waste to cover a football pitch to a height of about ten metres. Most of this waste is produced by the nuclear power industry. Some of the waste will remain hazardous for thousands of years. There is a need, therefore, for a long-term strategy to manage this waste.

Nirex has developed the concept of **phased disposal** as one long-term option for managing the waste. According to the concept, waste would be placed underground in a deep geological repository. The repository would remain accessible and the waste would continue to be monitored for a period of up to several hundred years. During this period, the waste could still be taken out again if required. Future generations would then have the choice of either continuing to store the waste (by keeping the repository open and accessible) or disposing of the waste (by permanently closing and sealing the repository).

Nirex is conducting scientific and technical research into the phased disposal concept. As part of its commitment to wider public consultation, Nirex is keen that its research should take into account public concerns with regard to radioactive waste and its management. With this in mind, Nirex commissioned The Future Foundation to identify the issues and concerns that members of the public would have with regard to the phased disposal concept.

The Future Foundation held eight focus group discussions with members of the UK public. All groups comprised equal numbers of men and women but their composition varied in terms of age, lifestage and socio-economic circumstances, allowing us to achieve a broad cross-section of the UK population. The groups were conducted in Carlisle, North London (Cockfosters), Paisley and Cardiff. The Carlisle and North London groups were held in late November/early December 2001, while the Paisley and Cardiff groups were held in January 2002.

Each group of people attended two sessions, held on successive evenings. The first session was a general discussion of the issues of nuclear energy and radioactive waste. The second session focused on the specific issue of the phased disposal concept. In both sessions, people were given printed material that explained the issues. They were then asked to comment on what they had read.

General attitudes to radioactive waste

By their own admission, people knew very little about the issues of nuclear energy and radioactive waste. They had never given much, if any, thought to the matter. Nevertheless, they expressed a strong but vague mistrust of nuclear energy and were cynical and suspicious about the nuclear industry.

Once people had been given information about radioactive waste, they recognised the importance of the issue and were surprised at how little they – and, by extension, the public in general – knew about such an important topic. There was strong support for the idea of the public being given more information.

There was widespread agreement that radioactive waste was a problem that needed to be tackled by the current generation – and respondents were surprised and alarmed to read that no long-term solution had yet been agreed.

For many people, the scale of the problem was a strong argument for stopping nuclear energy immediately. Given that no agreement had yet been reached on what to do with the existing waste, it was considered irresponsible and immoral to continue producing any more.

There was a common feeling that, whilst the public should be kept informed, the final decisions about the management of radioactive waste should be made on its behalf by representative organisations. It was crucial, however, that these organisations should be accountable to the public and open to public scrutiny.

People suggested that accountability and scrutiny could be achieved through two key measures:

- Involving a cross-section of interested parties in the decision-making process; and
- Establishing a credible, independent watchdog to oversee the management of radioactive waste.

Only a few people had ever heard of Nirex. After having read about Nirex, people expressed strong disapproval of Nirex being owned by the nuclear industry. They argued that Nirex needed to be independent from the commercial interests of the wider industry.

Attitudes to the phased disposal concept

Reassurance – It should be noted that many people were reassured by what they read about phased disposal. The level of detail provided, especially in the information about the individual phases, reassured them that the experts were giving serious thought to the matter.

Concern about phased disposal in practice – Many people were broadly satisfied with the phased disposal concept ‘in theory’. They were concerned, however, about

what would actually happen in practice, once the concept was put into action. In particular, they wanted to know:

- **What happens if something goes wrong?** People were not mainly concerned about the routine, day-to-day operations of phased disposal. Rather, they wanted to know what would happen if something out of the ordinary occurred. They were worried about the scale of damage to the wider environment if there was, say, an explosion or a leakage – and they wanted to be reassured that there were mechanisms in place to limit the scale of the damage.

- **How are you going to pay for it?** People were concerned about how phased disposal would be financed over such enormous timescales – hundreds of thousands of years. They were worried that the nuclear industry would cut corners in its pursuit of profit, and that this would lead to the waste not being properly monitored.

- **How do you get the timing right?** Some people could see that the success of the concept rested on ‘getting the timing right’ – that is, on containing the waste for long enough for its radioactivity to decrease to acceptable, background levels. Given that timing was critical, people wanted to know what scientists have based their forecasts on.

The impact of September 11th - During the first set of focus groups, conducted in late November and early December 2001, people were very quick to express their considerable concerns about terrorism in relation to nuclear energy facilities. They were worried that terrorists might attack a facility or might get their hands on a quantity of waste and manage to turn it into some form of weapon. Clearly, people expressed these fears in the shadow of the September 11th attacks and the on-going conflict in Afghanistan. By January, however, people were no longer so worried – mainly because the issues of terrorism and international conflict were no longer so prominent in the news. This is a clear example of the degree to which public concerns can be heightened by heavy news coverage, only to fall back relatively quickly once the issue is dropped from view.

Concern about the transportation of waste – The transportation of radioactive waste was probably the largest concern expressed by people in response to what they had read. This phase was regarded as the weakest link in the chain, where both the potential for an accident and the potential for widespread damage to the human environment were at their greatest. From the respondents’ point of view, this was the stage at which disaster was most tangible, when radioactive waste entered the domain of people’s everyday lives. And for some people, this was made all the more alarming by the fact that the transportation of waste is already taking place.

Concern about the closure of the repository – Most people were disturbed by the idea that the underground repository would be closed and that there would be an end to the monitoring of the waste. They argued that monitoring should continue for as long as the waste exists. People were worried that radiation might leak into the surrounding rocks and might reach the human environment on the earth’s surface.

Reluctance to discuss phased disposal – There was some reluctance among people to discuss the phased disposal concept. There were three main reasons for this reluctance:

- People argued that they didn't have enough scientific knowledge to form a valid opinion. Many people felt that they were actually being asked to choose the best option for the future management of radioactive waste.
- People said that they could not see the benefit of having expressed their concerns about phased disposal – because they didn't think that anyone would listen to them and they didn't feel that there was anything that they could personally do about the issue of radioactive waste.
- People were suspicious about Nirex's motive in trying to measure public opinion. They suspected that Nirex wanted to win public approval for its phased disposal concept. Or else, they said, perhaps Nirex was seeking to learn more about the public response to the issues and information, so that it could anticipate and 'neutralise' any public outcry that occurred in the future, when its plans were more widely known.

Concern that the experts don't know what to do – People felt that Nirex was hoping that these focus groups would generate useful suggestions – things that the experts had missed – about the future management of radioactive waste. Clearly, this was a worrying idea: that the experts had become so desperate for ideas that they were asking the general public.

Attitudes to the focus group discussions

People found the sessions demanding – which is unsurprising, given that they were being asked to read a considerable amount of printed material on a complex issue that they knew nothing about and had never before given any thought to. Then, with no time to digest and reflect on the material, they were being asked to discuss the issues that it raised. (More than one respondent commented that the exercise was a little like being back in a classroom.)

At the same time, however, most people expressed considerable interest in the information that they had been given and they claimed to have enjoyed the discussion. Most people came away from the session about phased disposal more convinced than before that the issue of radioactive waste was important and needed to be addressed.