

Do shared repositories

In the February 2004 issue of NEI, Chris Murray, managing director of Nirex, set out the approach that Nirex is taking in dealing with the UK's radioactive waste legacy. Although the focus of the article was on how Nirex is attempting to tackle the problem using an ethical approach, it also criticised the concept of international waste repositories – this part of the article is reproduced in the Panel on page 12. The comments have prompted a letter from Charles McCombie and Neil Chapman of Arius, which is reproduced below. Murray's response to this letter is also on page 12.

In the February 2004 issue of *NEI*, the head of UK Nirex, Chris Murray, criticises strongly the concept of shared multinational or regional repositories. Murray's criticisms parallel the strident attack made in his name by a Nirex representative in a panel discussion at the Waste Management 2004 Meeting in February in Tucson, Arizona. The tenor of the audience responses to the panel discussion made it clear that the extreme views put forward by Nirex were not widely shared.

On behalf of the numerous countries that are seriously considering multinational disposal as a possible option, we should like to express the frustration that is engendered by irresponsible comments such as those made by Murray. If nuclear power is to continue supplying much needed energy on a global scale, then safe and secure disposal solutions are needed for all countries producing radioactive wastes. For some small countries, this will be possible only with shared repositories. Both regionally and globally, these will complement the national repositories of larger nations. It does a gross disservice to the nuclear community's efforts to make clear to the public the global environmental benefits of geological disposal when unwarranted attacks are made on either national or shared solutions. Responsible mutual support by followers of both disposal strategies is required.

In a paragraph titled 'international dumping', Murray refers disparagingly to plans for shared repositories. This terminology is presumably founded on his implicit assumption that multinational repositories will be of a lower technical standard than national facilities. In fact, all responsible initiatives for shared disposal are based upon the implementation of state-of-the-art repositories just like those envisioned in the major national programmes.

Professionals in the disposal field have spent years resisting the media usage of the pejorative description 'dumping' to describe the high-tech geological repository concepts that are being developed worldwide. Given the difficulties that the nuclear industry has had to establish confidence in the ethical, scientific and technical basis of geological disposal, it is disappointing to see such language being used by the head of a national programme.

The principal arguments put forward by Nirex in *NEI* and at Tucson against multinational repositories are:

- They are 'unethical', since each country using nuclear technologies should dispose of wastes on its own territory.
- Shared repository initiatives are 'academic', because there are currently no specific host countries identified.
- Multinational projects cannot work because they are not welcomed by local communities.

Murray gives no justification for his view that freely agreed transfer of radioactive wastes between willing sovereign states (as would be required in all responsible multinational initiatives) should be regarded as unethical. This is certainly not the view of the numerous countries considering the option, nor of international organisations like the International Atomic Energy Agency (IAEA) and the European Commission (EC), both of which are on record as recognising that such transfers are not only ethical but also environmentally beneficial, if they make safe and secure disposal available to all countries. Today, wastes are already being transferred between countries where this results in environmental improvements or security gains (for example: research reactor fuel from various countries is returned to the USA; and Belgium accepts the small quantities of radioactive wastes from its smaller neighbour, Luxembourg).

What certainly is unethical is for major nuclear nations to try to impose upon small countries their own lopsided interpretation of ethics. The large nuclear nations were happy to export nuclear fuel cycle products and services (including reactors, fuel fabrication, reprocessing and so on) to any who would purchase these. To single out disposal as the one part of the nuclear fuel cycle that may not be internationalised is self-serving and inconsistent. The Nirex arguments for national nuclear self-sufficiency ring rather hollow in a country that depends upon imported uranium and thus avoids all problems associated with mining – the fuel cycle step that has the most environmental impact.

The Nirex attack on the ethics of multinational repositories is out of step with a wide body of international opinion. Why a struggling

represent unethical 'nuclear dumping'?

national programme should use its limited resources to attack a concept that has no direct bearing on its remit or interests is hard to understand. Fortunately, not all UK bodies share Nirex's idiosyncratic view. The House of Lords Select Committee on waste disposal took a more mature view when it recommended: "If the chosen policy is phased geological disposal, this country (the UK) should take a lead in discussions on international regional repositories and offer help to those countries that need them, but lack the resources, to develop them."

The second argument brought by Murray – that multinational schemes are 'academic' because no site has been identified at present is perhaps even more eccentric. If this is to be a criterion for credibility, then virtually all national HLW geological disposal programmes are also academic, since only the USA and Finland have identified deep disposal sites. In reality, no site or country is currently nominated for a multinational repository for exactly the same reason that national programmes do not nominate a site at the very beginning of their efforts. Both national and multinational programmes must fulfil some important prerequisites before taking the important step of selecting preferred sites:

- Getting all participants on board concerning the desirability of finding a common site (or sites) – that is, recognition of a common need.
- Identifying and transparently documenting all of the technical and non-technical criteria that a site would need to satisfy.
- Establishing, documenting and discussing with the involved public the advantages (and drawbacks) that a site would experience.
- Building trust in the organisations that are charged with identifying and developing the site.

Only then should one move to discussion of specific siting options. This is the gradual process envisioned by the Arius Association and in the Sapierr project of the EC, which is mentioned below. Neglecting to satisfy adequately all of these prerequisites before moving to repository siting has led to setbacks or failures in various national disposal programmes around the world.

Murray's final assertion is that multinational concepts cannot work because "the idea of international repositories is strongly opposed at a local level in any country where it is raised." The countries he uses as examples are Finland, Canada, Sweden, France and the UK – all countries where the prospect of national repositories being forced to accept foreign wastes has been raised by opponents of geological disposal. In fact, experience has shown that any repository programme – national or shared – will have an uphill struggle to reach the point of being welcomed by the majority of a local community.

In a democratic system, the maximum chance for successful siting is when the local community becomes convinced that the potential hazards are extremely small and are far outweighed by the potential benefits of hosting a disposal facility. To reach this situation is a major challenge for national disposal programmes, and it will certainly be even harder for multinational programmes. The fact that many countries are, nevertheless, willing to explore whether this can be achieved is illustrated by the wide membership in the Sapierr project supported by the EC. This initiative is devoted to exploring the key issues affecting the feasibility of shared regional repositories in Europe. At the first meeting in February, organisations from 14 different countries in Europe took part. In other parts of the globe, there is also interest in multinational concepts.

Some of the concerns by national organisations that the concept of shared repositories might damage their programmes are at least partly understandable. The fears are that the prospect of importing waste could increase local opposition, or that the prospect of being able to export waste might reduce political support for a national solution – or even deflect funding from national disposal organisations. The fear of a country being compelled against its will to accept waste from other countries is, however, unwarranted, when one considers the firm commitments at all levels to the principle that this is not permissible – as expressed, for example, in the IAEA Waste Convention, in the Waste Directive issued by the EC and in the resolution passed by the European Parliament. The concern that effort or attention might be diverted is not realistic since the modest resource requirements of multinational initiatives in the current phase mean that a national programme could easily examine both options in parallel, as in the 'dual track' approach that is being already followed by various European programmes.

Expending effort on attacking multinational disposal initiatives with pseudo-ethical arguments and using terms such as 'dumping' is highly unproductive for any national programme. A more responsible approach, even for countries that for policy reasons have decided upon a purely national solution, is to recognise the obvious potential environmental, safety and security advantages of shared repositories, to accept that these will inevitably be implemented in the future, and to try to progress their own programmes in order to show the way ahead – as is being done by our colleagues in Finland, Sweden and the USA. Criticism on disposal strategies from a programme that is currently questioning even the basic concept of geological disposal does not contribute responsibly to informing the technical, political or public debate in the many countries trying to progress towards implementing repositories, whether these be national or shared.

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Response by Chris Murray

Charles McCombie and Neil Chapman make several claims in response to my article in February's issue and the comments made by Nirex at Tucson. It is perhaps best to start with the most misleading. McCombie accuses me of labelling plans for international repositories as 'international dumping' when even the most cursory reading of my article shows that I was referring to fears expressed by local communities concerning the acceptance of foreign waste; fears McCombie dismisses far too readily.

Contrary to the incorrect assertion in the letter, this has nothing to do with the low technical standard or otherwise of an international repository but everything to do with respecting and responding to the concerns of those most affected by a repository, the community living around it. Claims that these concerns are voiced only by those who oppose geological disposal per se are demonstrably untrue – communities in Finland and Sweden have insisted that no foreign waste is accepted while accepting the potential for a repository in their area – and to dismiss them as 'unwarranted' does nothing to address them. Experience, both in the UK and abroad, has shown that public opinion is a powerful force, no matter how often scientists or experts decry it as wrong-headed.

The one time that the idea of an international repository has been put to the test of public opinion, in Australia with the Pangea project, it was comprehensively rejected. Closer to home, the most recent Eurobarometer opinion survey to ask specifically about accepting foreign waste (Eurobarometer 50.00, 1999) found that just 12% of people supported the idea of disposing of foreign waste in their own country. To quote the involvement of some national waste organisations in the Sapierr project as evidence that this situation can be turned around suggests that the public acceptance lessons of the commercially-driven Pangea have not been learned. In fact the assertion by McCombie in his final paragraph that there is a need "to accept that these (international repositories) will inevitably be implemented in the future" (my italics) confirms this to be the case.

On the question of ethics, McCombie accuses us of attempting to 'impose' our own judgement on small countries and contends that there is something 'self-serving' in attempts to stop waste being transferred between countries. The argument goes that if major nuclear nations were happy to export goods and services at the front end of the fuel cycle, why not at the back end. This ignores several facts, not least of which is that those countries receiving reactors or fuel were receiving something useable and useful, rather than useless and potentially dangerous radioactive waste. There is a world of difference between importing and exporting a product rather than a problem. In addition it goes unrecognised in McCombie's letter that it is not a stark, zero-sum choice between constructing international repositories and abandoning smaller nuclear nations to their fate. Expertise, help, know-how, technology, political experience, knowledge and even personnel and funding can be 'exported' to smaller nations, all without breaching the principle of self-sufficiency or overriding the concerns of local host communities.

Finally, McCombie worries that Nirex is 'expending effort' and our 'limited resources' on attacking a "concept that has no direct bearing" on our remit and interest. We do not agree; to say that talk of international repositories has no impact on national programmes is short-sighted and runs counter to the facts. The evidence from virtually every national programme is that continued talk of shifting waste across borders serves only to fuel fears and impede progress. Furthermore, the debates over national and international repositories share many of the same parameters and issues – most notably the ethical and social dimensions – and we will continue to play our legitimate part in these debates. At the same time, we will do all we can to convince others to play their part, something I hope McCombie will also do.

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International dumping

Another reoccurring theme, articulated to us in almost every country we deal with, is that of international repositories. Contacts nationally and internationally have repeatedly and unequivocally made it clear that the idea of international repositories is strongly opposed at a local level in any country where it is raised. For example, the Finnish community that voted to accept the development of a national repository in their community made it a condition of acceptance that no international waste would be accepted into the repository. A similar fear of 'international dumping' has been expressed in Canada, Sweden, France and the UK.

Proposals for international repositories cause major difficulties for national programmes and we at Nirex believe that each country should face up to dealing with its own waste. Our analysis of the views of local communities on this issue is that the siting of an international repository will be politically unacceptable (as well as near-impossible to implement) in a democratic state and unethical if an international repository were sited in an undemocratic state. There is also the basic point that a state which has had the benefit of nuclear technology must face up to the social and political issues associated with its programme, as well as the purely technical ones.

Chris Murray in NEI February 2004

Group photograph taken at the Sapierr and Arius meetings that were held back-to-back in Piestany, Slovakia in February. Charles McCombie is pictured third from left, and Neil Chapman eighth from left

