

DSG(2010)C064

## HSE Nuclear Directorate

### Bulk Quantities Pre-Consultation Stakeholder Workshops: Summary Report

17<sup>th</sup> June, Hilton Hotel, Edinburgh Airport

#### Participants

Mick Bacon (HSE)  
Ray Kemp (RKCL Facilitator)  
Stuart Hudson (Scottish Government/SEPA)  
Ewan Young (Scottish Government)  
Rita Holmes (Hunterston SSG)  
Kenny MacDougall (Hunterston SSG)

#### Apologies

Roh Hathlia (DECC)  
Jim Cochrane (SEPA)  
June Love (Dounreay SSG)  
Alan Mowatt (DSRL)  
David Orr (Magnox North, Chaplecross)

## 1 Introductions

Mick Bacon (HSE)

- Welcomed the participants to the meeting and thanked them for attending.
- Explained how the HSE would no longer be addressing the issue of *disposal* of Bulk Quantities of radioactive waste in its consultation process but would instead be focusing on the definition of Bulk Quantities for storage.
- Informed those present that DECC would be taking the issue of disposal of Bulk Quantities forward in a separate consultation which will involve issues related to the Paris and Brussels Conventions.
- Emphasised that the HSE is now very keen to progress the issue and wants to take full account of stakeholder's views.
- Stressed the importance of two-way communication and the hope that participants would take the opportunity to share their views with the HSE.

Professor Ray Kemp:

- Facilitated round table introductions for the benefit of all present.
- Outlined the agenda and stressed that the workshop was a pre-consultation meeting to share the HSE's thinking following the pre-consultation meetings held last November and subsequent discussions with DECC and to identify key issues and concerns in advance of formal consultation being undertaken this summer.

- Noted that a brief summary report of the meeting would be made available for participants.

## **2 Presentation and Discussion of Draft HSE Proposals**

### **2.1 Background and Scope**

Mick Bacon (HSE) described the background to the issue and the scope of the current project in some more detail. Key points included:

- The Nuclear Installations Act 1965 (NIA65) requires that a Nuclear Site Licence is in force before a site may be used for the purpose of installing or operating any fixed nuclear reactor or any other installation that may be 'prescribed'.
- The installations currently prescribed are specified in the Nuclear Installations Regulations 1971 (NIR71). Amongst other things, the NIR71 prescribe the storage of 'bulk quantities' of materials.
- Disposal of radioactive matter is not currently prescribed, but Government Policy is that a geological disposal facility (GDF) should be a licensed facility. However, an issue with prescribing disposal is whether LLW disposal facilities would be brought into the licensing regime.
- The Paris Convention requires operating nuclear facilities to carry substantial amounts of no-fault insurance for off-site damage. The UK Government is required to ratify the 2004 Protocol on the Paris Convention which defines "damage" and specifies levels of insurance. This ratification also needs to bring "disposal" (with no de-minimis) within the scope of the application of the Convention. However, in the UK, the application of the Paris Convention is linked to the issuing of a nuclear site licence with the possible implication of licensing ALL disposal sites.. This is not the case in other countries.
- In order to resolve this anomaly, DECC will take the lead for re-consideration of arrangements for disposal through the OECD Nuclear Energy Agency (NEA) led process on the Paris Convention to ensure that proposed UK arrangements for licensing and disposal correctly implement the terms of the Convention. Stakeholders with an interest in disposal issues should ensure that they engage with the DECC consultation process which HSE understands is likely be held in the near future.
- In the meantime, the range of organisations potentially storing bulk quantities of radioactive matter is increasing and there is now a need to define 'bulk quantities' more clearly.

- Under this project, the HSE is only considering the **storage** of 'bulk quantities' of radioactive wastes, and envisages issuing guidance on HSE's interpretation of 'bulk quantities'.

## 2.2 Defining Bulk Quantities

Mick Bacon (HSE) described possible ways of defining bulk quantities. Key points included:

- The term 'bulk quantities' was first used in ~1959 with the aim of excluding trivial risks.
- Legal interpretation, likely based on the Oxford English Dictionary, would be that 'bulk quantities' refers to a *volume*.
- However, defining bulk quantities in terms of volume alone would not reflect the hazard or risk posed by the materials. Similar problems would arise if bulk quantities were defined in terms of mass.
- Therefore, the HSE is proposing to define bulk quantities in terms of *activity*.
- The HSE's suggestion is to define bulk quantities as being 100 times the figures given in Schedule 2 of the Radiation (Emergency Preparedness and Public Information) Regulations 2001 (REPPPIR), which correspond to a potential off-site effective dose of 5 mSv in the period of one year immediately following a reasonably foreseeable radiation emergency. The factor of 100 has been derived by considering the levels in NIA65 when site licensing could be expected.
- A "reality check" against the Environment Agency's data base of current sites in the UK appears to indicate that the suggested multiplier of 100 times REPPPIR is reasonable.
- The HSE prefers an approach in which all industrial sectors would be treated in the same way, rather than singling out the nuclear industry for special consideration.
- The HSE does not want to license sites where it is not necessary and is aiming for better and proportionate regulation.
- Based on an initial survey of users of radioactive substances, and using the proposed 100 times REPPPIR Schedule 2 values, some hospitals with large radiotherapy departments that hold large sealed sources might appear to need licensing. However, sealed sources are regulated under other legislation (e.g., the Ionising Radiations Regulations 1999 (IRR99) and the High-activity Sealed Radioactive Sources and Orphan Sources Regulations 2005 (HASS)), consistent

with the Paris Convention, which also excludes sealed sources. This would be addressed in the DECC consultation process.

## 2.3 Discussion

Facilitated discussion around this presentation addressed the following points:

- **Legitimate Consultation.** The HSE were asked how they intended to run the public consultation process since attendance at this meeting was so low and it was essential that the public were properly informed.

The HSE apologised that unavoidable short notice for the meeting was a chief reason why several could not attend. However the HSE was keen to receive ideas on how to conduct the consultation, and who else might be contacted. HSE was also willing to meet further with interested parties as part of the on-going process.

- HSE were invited to attend the September meeting of the Hunterston SSG and Mick Bacon indicated that he would be pleased to attend the meeting.
- Proper consultation meant such things as involving Community Councillors, newspaper publicity, mass emails, journal articles, and so on – and engagement with a variety of views and opinions – not just industry interests. SCCORS represents 32 Local Authorities in Scotland for instance.
- People's time shouldn't be wasted and there should be a 2-way process with feedback being given to those who respond. Consultation must and must be seen to have an effect on the outcome.
- It was suggested that as simple language as possible should be employed and the use of obscure ACRONYMS avoided at all costs.

These comments were welcomed by the HSE. RKCL was advising on the consultation process which also had to be put into perspective in terms of the nature of the issues being addressed. It was acknowledged that more should be done to ensure those in Scotland understood they had the opportunity to engage.

- **Impact of the Proposals.** It was advised that it is important to explain what the impact of the proposals will be so as to avoid confusion. The main concern of most people will be whether a site is to be regulated by the NII or SEPA. There may be confusion that there could be long-term health implications as a result of the proposed approach and these concerns need to be addressed.

Mick Bacon acknowledged that it used to be clear what should be licensed by the NII but now some sites were "in the middle" – they were not trivial risks but "Bulk Quantities" implies a potential off-site risk. The implications for sites being licenced are not are not trivial: the insurance requirements jump to between £70 million and £170 million; NII charges can be £50,000 - £100,000 per annum; and a more onerous inspection regime is imposed.

- **What should be Licensed?** It was suggested that a clear approach was needed to retain confidence in the NII.

The HSE view is that a risk based approach is sensible but difficult to implement. The justification for nuclear licensing should be that there is potentially an exceptional off-site risk. A judgement based on radioactivity – Becquerels – should be explored. It makes sense to have upper and lower bounds of activity such that above a certain level a licence is required, below a certain level one isn't required, and judgement is needed in between. Initial thoughts are that the upper bar should be 1800 x REPIR (Schedule 2) and the lower bar should be 100 x REPIR.

The need for a clear approach is that a number of new sites are coming forward. The issue of Sealed Sources will be addressed by DECC in its response to the Paris Convention and Transportation of Sealed Sources is already regulated.

The HSE is not seeking to exempt anything from regulation, but it is saying that certain sites with high hazard require additional NII regulation. Determining where to set the additional bar for NII regulation is the issue to be addressed.

- **The issue of Dounreay.** It was stated forcefully that any approach that means that the new Dounreay Low Level Waste Disposal Facility would not require an NII licence would be condemned as “sneaky” by the community. Any document that supports such an approach should be widely disseminated in the public domain.

The discussion pointed out that the Scottish Government doesn't believe the new Dounreay disposal facility should be licensed by the NII. HSE pointed out that DECC is preparing a consultation document on the prescription of disposal as part of the UK's obligation to ratify the Paris Convention.

The HSE made clear that DSRL is progressing on the basis that it will require a Nuclear Site License. In addition, the Dounreay facility would be captured by HSE's proposed screening method because on first examination the design criteria is approximately 300 x REPIR.

### 3 Meeting Summary and Close

A summary discussion of the key points included the following:

1. The HSE will be consulting on its proposed approach to defining Bulk Quantities of radioactive material in relation to storage this summer – probably from the end of July onwards.
2. The intention is to release a Policy Statement with a clear method identifying a single threshold defining what constitutes Bulk Quantities for the storage of radioactive material.
3. DECC will be consulting separately the proposed approach to disposal, exemptions from licensing and ratification of the Paris Convention. HSE recommended that everyone should watch carefully for further information from DECC.
4. The method being proposed by the HSE is intended to be proportionate to the issues and to be helpful to all concerned.
5. Delicensing is an important consideration since once a licence is issued, the operator will need to demonstrate “no danger” at the end of its period of responsibility and that is a difficult test required by Primary Legislation.
6. There remain uncertainties but the building blocks towards resolving the issues are slowly coming into place.
7. The output of HSE’s approach is not dependent on the DECC discussions with the NEA Steering Committee and will be a policy statement by the HSE.
8. However it is important that there is co-ordination between the two strands of work and HSE will provide technical support to DECC. Meetings of the NEA Steering Committee only occur bi-annually.
9. It is recognised that there is an urgent need to set out the issues for stakeholders and the general public; to clarify what is meant by “Bulk Quantities” and what that implies in terms of the need for any liability insurance for off-site risks.
10. HSE is keen to maintain open lines of communication on these issues and encourages everyone to suggest others who may wish to be included. HSE is happy to attend additional meetings to discuss the issues and listen to people’s views.

Mick Bacon thanked all of the participants for their contributions and was pleased with the dynamic and constructive nature of the discussions.

# HSE Nuclear Directorate

## Bulk Quantities Pre-Consultation Stakeholder Workshops: Summary Report

16<sup>th</sup> June, Radisson Hotel, Manchester Airport

### Participants

Mick Bacon (HSE Nuclear Directorate)  
Bruce Cairns (DECC)  
Ray Kemp (RKCL Facilitator)  
Simon Morgan (NDA)  
Michael Calloway (NDA)  
Steve Daish (AMEC)  
Stuart Cripps (AMEC)  
Simon Moyle (Augean)  
Alistair King (GE)  
David Ferguson (Energy Solutions)  
Andrew Drom (Magnox North Sites)  
Phil Holland (SITA)

### Apologies

Roh Hathlia (DECC)  
Rob Allott (EA)  
Fred Barker (NULEAF)

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regulated under other legislation (e.g., the Ionising Radiations Regulations 1999 (IRR99) and the High-activity Sealed Radioactive Sources and Orphan Sources Regulations 2005 (HASS)), consistent with the Paris Convention, which also excludes sealed sources. This would be addressed in the DECC consultation process.

## 2.4 Discussion

Facilitated discussion around this presentation addressed the following points:

- **Processing.** There was discussion of the distinction between 'processing' (as used in NIA65) and storage, of whether there is a need to define processing more clearly, and of when radioactive matter that is being processed should be considered to be in storage. There was also some concern over whether facilities processing wastes for later transfer to the national Low Level Waste Repository (LLWR) would be affected by the proposed licensing regime.

It was explained that, in practice, storage overlaps processing, and that radioactive matter that is being processed is always considered to be in storage. Currently the HSE cannot see a need to prescribe processing and, for example, the Studsvik Metal Recycling facility at Lillyhall in Cumbria is licensed for storage, not processing.

- **Dual regulation.** There was some concern over whether the current proposals might lead to unnecessary 'dual regulation' of disposed wastes under the Radioactive Substances Act 1993 (RSA93) and NIA65.

It was explained that there is close cooperation between the HSE and the environment agencies, and that the two regulatory regimes are complementary rather than overlapping. The HSE's interests lie in public and worker health and safety during facility operations and accident emergencies, while the environment agencies' interests are different and lie in environmental protection and protection of the public from releases to the environment (e.g., to groundwater).

- **De-licensing.** Several questions were raised concerning de-licensing of facilities. The HSE is planning to further work on de-licensing under a separate project.

It was explained that currently, the HSE's approach is to try to resolve issues one at a time because this is more tractable than trying to solve all of the issues at once, but HSE is open to stakeholder's views, e.g., on whether the proposals should be cast in a more holistic way.

- **Due Process.** It was asked if the HSE would be acting in proper accordance with the law if it were to define bulk quantities in terms of *activity*.

It was emphasised that the HSE is only proposing to put forward its own interpretation of bulk quantities, and that the HSE recognises that this could be challenged in court. Any judicial decision would overrule HSE guidance on the interpretation of bulk quantities, but the HSE considers that if it arrives at its guidance by a good process of consultation, then that process would provide an element of legitimacy for its guidance.

- **Wasteform and specific activity.** There was discussion of whether the form of the waste should be considered when defining bulk quantities (e.g., powders versus cemented wastes)? There was also discussion of whether the concentration of activity in the wastes should be the basis for the definition of bulk quantities.
- **Site-by-site assessment of the requirement for licensing, and the use of dose or risk-based criteria.** It was noted that activity is not equivalent to dose or risk. Participants asked if it would not be better to assess the requirement for licensing on a site-by-site basis. It was suggested that REPPIR type emergency doses could be calculated for each site and the need for licensing then determined case-by-case.

The HSE suggested that it would be clearer to use a directly measurable quantity (such as activity) to determine the need for licensing, rather than a derived (calculated) quantity such as dose or risk. Some participants suggested that a 'sufficient' assessment of dose or risk could be required and that this would mean that dose or risk could be used instead of activity. Other participants noted that although measureable in principle, there are uncertainties and limitations associated with the ability to measure activity. There was also discussion of whether dose or risk criteria could be used successfully in court and whether arguments over the assessment of dose or risk might cause delay in the licensing process.

- **How would licensing work in practice?** Questions were raised over when it would become necessary for a site that was gradually accepting more radioactive matter to have a license. Participants asked how a 'site' would be defined, whether neighbouring sites could be licensed, and whether sites could be divided to avoid licensing.

The HSE pointed out that it is the intended final capacity of a site that determines the assessed level of risk by the HSE.

- **Clarity of documentation.** It was noted that REPPIR may not endure and participants suggested, therefore, that the new regulations or HSE guidance should include an explicit table of the activity levels at which licensing would be required.

- **Treating all sectors equally.** There was general support for an approach that would apply to all industrial sectors in the same way. The difficulty in defining the 'nuclear sector' as distinct from other sectors was pointed out.
- **Sealed sources.** There was general agreement with the suggestion to exclude sealed sources, but a question as to whether orphan sources would need to be licenced.
- **Amersham.** It was suggested that the GE Healthcare site at Amersham would probably continue to need to be licensed under the 100 times REPIR Schedule 2 values, but that the GE Cardiff site would probably not.
- **Naturally-Occurring Radioactive Matter (NORM).** It was questioned whether some holders of NORM would probably need to be licensed using the 100 times REPIR Schedule 2 values. However, it was pointed out that NORM is excluded from the provisions of NIA65.
- **Headroom and future-proofing.** Participants asked if the current proposals include enough 'headroom' to allow for future increases in the storage of radioactive materials (e.g., at hospitals and other facilities). It was considered that further work would be necessary to consider the potential impacts of the proposals, and to take account of possible future trends.
- **Degrees of licensing.** There was a suggestion that the degree of licensing could be varied according to the facility and risks in question. It was pointed out that licensing is a high impact form of regulation most appropriate for High Hazard industries. It is intrusive and costly.

### 3 Plenary Discussion of Key Issues

In a final facilitated discussion, the meeting participants identified the following key issues for HSE to consider:

- Should the term 'bulk quantities' remain in legislation at all?
- The justification for the 100 times REPPIR Schedule 2 values needs to be clear; presently the justification is not entirely clear, and it is not directly apparent how those values relate to risk. Can the proposals be linked more clearly to the Basic Safety Standards?
- Would a simple threshold level would be to implement? If so, set this at a higher rather than lower level and emphasise that this does not mean exemption from regulation. The fact that a nuclear site licence is not required does not mean that a site is not properly regulated.
- There is a need to consider more carefully the implications of the proposals. It may not be enough only to look at the environment Agencies' databases of RSA93 registrations and disposals, because these may not be reliable or broad enough in scope.
- There needs to be consistency between these HSE proposals and UK inputs to the Paris Convention development process. The requirement in the Paris Convention for liability insurance for all disposal sites has not yet been ratified and implemented in member states. There is a question of whether the UK Government should already be ensuring that LLW disposal sites have sufficient liability insurance in place.
- Is there a need for flexibility for the HSE to consider each site on a case-by-case basis and, for example, take account of the form of the waste, and site-specific off-site release scenarios?
- It will be important to state clearly that just because a particular site is deemed not to require a license that would not mean that the site is unregulated. There are layers of regulation that apply which need to be made absolutely clear to all concerned.
- How would the proposed changes work in practice? Could some conceptual case studies be presented to show how the proposals would work in practice?

## **4 Meeting Summary and Close**

A summary discussion of the key points included the following:

11. The HSE will be consulting on its proposed approach to defining Bulk Quantities of radioactive material in relation to storage this summer – probably from the end of July onwards.
12. The intention is to release a Policy Statement with a clear method identifying a single threshold defining what constitutes Bulk Quantities for the storage of radioactive material.
13. DECC will be consulting separately the proposed approach to disposal, exemptions from licensing and ratification of the Paris Convention. HSE recommended that everyone should watch carefully for further information from DECC.
14. The method being proposed by the HSE is intended to be proportionate to the issues and to be helpful to all concerned.
15. Delicensing is an important consideration since once a licence is issued, the operator will need to demonstrate “no danger” at the end of its period of responsibility and that is a difficult test required by Primary Legislation.
16. There remain uncertainties but the building blocks towards resolving the issues are slowly coming into place.
17. The output of HSE’s approach is not dependent on the DECC discussions with the NEA Steering Committee and will be a policy statement by the HSE.
18. However it is important that there is co-ordination between the two strands of work and HSE will provide technical support to DECC. Meetings of the NEA Steering Committee only occur bi-annually.
19. It is recognised that there is an urgent need to set out the issues for stakeholders and the general public; to clarify what is meant by “Bulk Quantities” and what that implies in terms of the need for any liability insurance for off-site risks.
20. HSE is keen to maintain open lines of communication on these issues and encourages everyone to suggest others who may wish to be included. HSE is happy to attend additional meetings to discuss the issues and listen to people’s views.

Mick Bacon thanked all of the participants for their contributions and was pleased with the dynamic and constructive nature of the discussions.