

## Joint Convention

### Questions Posted To United Kingdom in 2006

	Country	Article	Ref. in National Report
	Australia	General	A:13

Question/ Comment regarding orphan sources? What legal and administrative measures has the United Kingdom taken to meet the requirements of the HASS Directive regarding orphan sources? For example, does it have a national strategy for gaining or regaining control over orphan sources?

Answer The High-activity Sealed Radioactive Sources and Orphan Sources Regulations 2005 amend the Radioactive Substances Act 1993 to include at s.30A the provision that "The appropriate Agency shall be prepared or have made provision, including assignment of responsibilities, to recover any orphan source and shall have drawn up appropriate response plans and measures".

The Department for Environment, Food and Rural Affairs currently chairs a stakeholder group (the Orphan Sources Liaison Group) to co-ordinate UK-wide arrangements for responding to orphan source incidents.

	Country	Article	Ref. in National Report
	Australia	General	Planned Activity K:7

Question/ Comment Does the CoRWM include representatives from industry?

Answer No CoRWM members are current employees of the nuclear industry. However, the Committee does have a number of members with a detailed knowledge of nuclear operations. Additionally, the Committee has a number of channels available for securing access to nuclear industry and other radioactive waste management specialist advice to support its option assessment work.

	Country	Article	Ref. in National Report
	Australia	General	Planned Activity K:7

Question/ Comment What measures have been put in place to ensure that the CoRWM is an independent advisory body?

Answer CoRWM has been established as an independent advisory Non-Departmental Public Body. The Chair and Member

appointments were made from outside the civil service, or any other bodies answering directly to Ministers on the basis of guidelines established by the Office of the Commissioner of Public Appointments. While the Committee is provided with a secretariat and financial resources through the Department for Environment, Food and Rural Affairs, on behalf of all sponsoring Ministers, the CoRWM Chair, Professor Gordon MacKerron and his Committee management team, have full responsibility for the Committee's work programme and the use of these resources. He is accountable directly to sponsoring Ministers for programme and its outcome.

	Country Australia	Article General	Ref. in National Report Planned Activity K:7
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Question/ Comment Given the Committee's objectives of 'winning public confidence' and leaving a 'full and clear' (K:12) audit trail for the policy decisions that are taken, how does the Committee plan to measure success against these goals?

Answer CoRWM looks to achieve these objectives by coupling the input of sound science with a wide programme of public and stakeholder engagement throughout the course of its work. The programme is structured to be easily understandable – agree the waste, agree the available options, agree the criteria against which the options are to be assessed and then carry out the assessment. The public, stakeholders and experts are involved at all the key stages in this process. CoRWM operates in a completely open and transparent way with all its plenary meetings held in public and all its papers published on its website – [www.corwm.org.uk](http://www.corwm.org.uk). CoRWM has appointed an independent assessor to provide feedback on the way its work is perceived by the assessor himself and the wider world. The Committee also has various peer review and quality assurance mechanisms in place.

	Country Australia	Article General	Ref. in National Report Planned Activity K:7
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Question/ Comment Will the public be invited to comment on the recommendations prior to the Committee submitting them to the Minister?

Answer Yes. CoRWM is due to publish its draft recommendation at the end of April 2006 for a final round of public and stakeholder consultation prior to finalisation and delivery of its final recommendation in July 2006.

	Country Australia	Article General	Ref. in National Report Planned Activity K:7
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Question/ Comment Which areas of government do the 'Ministers' represent?

Answer Within UK Government and the devolved administrations, the lead Ministers for the UK's "Managing Radioactive Waste Safely" programme, of which CoRWM's work forms part, are:

- within UK Government, the Secretary State for Environment, Food and Rural Affairs;
- within the Scottish Executive, the Minister for Environment and Rural Development;
- within the Welsh Assembly, the Minister for Environment, Planning and Countryside; and
- for Northern Ireland, the Minister of State, Northern Ireland Office.

Country	Article	Ref. in National Report
Australia	General	Planned Activity K:7

Question/ Comment At which level of government will a decision be made on the recommendations eg ministerial or cabinet level?

Answer Decisions on future policy for the future management of the UK's higher activity radioactive waste, based on CoRWM's recommendation, will be the subject of decision by the UK Government and the devolved administrations for Scotland, Wales and Northern Ireland (radioactive waste management policy being a devolved function within the UK).

Country	Article	Ref. in National Report
Australia	General	Planned Activity K:9

Question/ Comment What is the role of the NDA in national management of radioactive waste? For example, does it have a role in the work of the CoRWM?

Answer The role of the NDA is discussed in the national report. But briefly the NDA is a public body set up to take strategic responsibility for the UK's nuclear legacy.

The majority of the UK's radioactive waste is either already on NDA owned sites, or will be generated on these sites during decommissioning. On that basis NDA has a key interest in the work of CoRWM and the development of an effective strategy for dealing with waste. Along with many other organisations, NDA is represented on CoRWM's National Stakeholder Group and has participated in workshops to consider such matters as the weighting that should be applied

to waste disposition options. NDA has also provided information to CoRWM on current proposals for disposition of Magnox reactor decommissioning waste and has peer reviewed work commissioned by CoRWM on plutonium.

Country	Article	Ref. in National Report
Australia	General	Planned Activity K13

Question/ Comment Are you able to provide any further details on the public and stakeholder engagement process planned for Stage 4?

Answer CoRWM has developed and amended its programme as its work has proceeded. It now has a three-phase programme. The third and last phase, which commenced in August 2005, covers the detailed assessment of its short-listed options leading to delivery of its final recommendation in July 2006. The Report of Phase 2 of CoRWM's Work Programme, available as Document 1210 on its website – [www.corwm.org.uk](http://www.corwm.org.uk) - provides details of its proposed public and stakeholder engagement programme for Phase 3 which is now underway. This programme involves the use of:

- citizens' panels;
- stakeholder panels;
- citizen and stakeholder round tables;
- CoRWM's Young People's Programme;
- a National Stakeholder Forum;
- written and website consultations;
- use of a discussion guide for social networks and websites; and
- implementation specialist workshops.

Country	Article	Ref. in National Report
Australia	General	Section L2: L2.59/60

Question/ Comment Are you able to provide any further details on the outcome of the review of the Safety Assessment Principles?

Answer The revised Safety Assessment Principles (SAPs) are out on public consultation until the end of May 2006 at [www.hse.gov.uk/nuclear/saps](http://www.hse.gov.uk/nuclear/saps).

We would welcome your comments on the document.

It was benchmarked against IAEA safety standards at an early part of the review process.

Most of the new topics covered and some of the revised text are of interest in the context of the Joint Convention:

The Fundamental Principles

Management of safety

Regulatory assessment of safety cases – new Siting

Emergency preparedness – new

Radioactive waste management – new

Decommissioning – new

Contaminated land – new

Country	Article	Ref. in National Report
Australia	General	Section L2: L2.59/60

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Comment

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The Fundamental Principles Management of safety Regulatory assessment of safety cases – new Siting Emergency

preparedness – new Radioactive waste management – new Decommissioning – new Contaminated land – new

Country	Article	Ref. in National Report
France	General	Section G/H Page 52

Question/ Is the minimization assessed with regards to the dosimetric impact of the wastes (optimization)?  
Comment

Answer Optimisation in terms of doses is an activity carried out over the whole waste management process, not separately for

waste minimisation considerations. Assessment of waste minimisation in the UK looks at minimising the volume and activity of waste produced, looking initially to avoid waste production, and then minimising the rate at which waste is produced looking in particular at the selection and control of materials, recycle and reuse of materials, and the implementation of appropriate operating procedures.

Country	Article	Ref. in National Report
France	General	Section L Page 82

Question/ Comment Could UK clarify provide details about the mentioned "substitution policy" and about the planned schedule for shipment of waste from foreign reprocessing ?

Answer ILW substitution covers the long-term management in the UK of ILW arising from the re-processing of overseas spent nuclear fuel, under existing BNFL contracts and the sending back to the country of origin an additional amount of HLW (additional to that which would be returned anyway) equivalent in radiological terms to the ILW being retained.

In 2004 the UK Government completed a public consultation, which led to the updating of the Review of Radioactive Waste Management Policy (Cm2919), in respect of substitution. (<http://www.dti.gov.uk/consultations/files/publication-1411.pdf>)

Returns of HLW from overseas reprocessing contracts are scheduled to commence in 2008.

Country	Article	Ref. in National Report
Germany	General	

Question/ Comment In the organisational meeting for the second review meeting of the Joint Convention, the UK stated to have 38 reactors in operation, while on the IAEA CNPP Website (Country Nuclear Power Profile) there are only 31 listed as "operational" (2003) and on the IAEA PRIS Website (Power Reactor Information System) there are 23 listed as operational and 22 as shut down (2004).

Believing there is no mistake in the listings it looks as if there is a different use of the words "operational" and "in operation" in the UK and the IAEA.

How does the United Kingdom distinguish between the stages of being "in operation" with power generation and "shut down" or "decommissioning"?

Answer UK does not distinguish between the different stages of the life of a nuclear installation. The examples quoted in the

question are all cases where we are providing information to IAEA. In this case the criteria used are those specified by IAEA. The IAEA CNPP website and PRIS both currently show 23 operational units and 22 shutdown units.

The figure of 38 units in operation quoted at the organisational meeting of the Joint Convention is an error.

Country	Article	Ref. in National Report
Ireland	General	

Question/ The Nuclear Decommissioning Authority (NDA)

Comment It is noted (Section A 20) that “Its (NDA) operations and those of its contractors on its sites are subject to the independent legal oversight of the HSE and environmental regulators as described above” More information on how this oversight will be exercised in practice is requested

Answer All persons carrying out activities in a place of work (such as a licensed nuclear sites) are subject to the provisions of the Health and Safety at Work etc Act 1974. This includes the licensee’s staff, any contractors, and NDA staff who may be on the site. HSE enforces the provisions of this Act. In the event that an action by staff of the NDA caused the licensee or any contractor to breach any part of the Act, then the NDA may be guilty of an offence, and subject to enforcement action by HSE. As an employer, the NDA itself also has direct health and safety duties towards its own staff under the Health and Safety at Work Act and other relevant health and safety legislation, which is also enforced by HSE.

Country	Article	Ref. in National Report
Ireland	General	

Question/ Radioactive waste substitution

Comment

The UK completed a consultation process in regard to the principle of waste substitution. Are any substantive proposals to implement waste substitution with overseas customers currently in train or planned and when are they scheduled to be implemented?

Answer The UK Government announced in December 2004 that the policy for the return of Intermediate Level Waste to overseas customers (as already established for Low Level Waste) can be implemented by waste substitution arrangements that ensure broad environmental neutrality for the UK, whereby an additional amount of High Level Waste, equivalent in radiological terms to the Intermediate (and Low Level Wastes) retained, is returned overseas. British Nuclear Group, consistent with UK Government Policy, has signed some waste substitution agreements with overseas reprocessing

customers. Details of such waste substitution agreements and their implementation are a matter for British Nuclear Group and its overseas reprocessing customers. The return of High Level Waste to overseas customers is currently programmed to commence in 2008 with the return of substituted High Level Waste being included within this programme.

Country	Article	Ref. in National Report
Ireland	General	

Question/ Comment It is noted in paragraph L.2.17 that there is a policy of accepting the decision of the owner of any radioactive material as to whether there is any foreseen use for that material and hence whether it is radioactive waste. Is there not a risk in that, in leaving this decision unconditionally to the owner, inappropriate decisions may be made and that hence inappropriate types and/or level of regulatory control applied?

Answer The regulatory control of any radioactive material is the same under the nuclear licensing regime whether or not it is declared as waste – hence the type and level of regulatory control does not depend on such decisions by the owners.

Country	Article	Ref. in National Report
Ireland	General	

Question/ Safety Assessment Principles

Comment Is it envisaged that the review of these principles referred to in Paragraph L2 84 will lead to any fundamental changes, in particular changes in the risk factors quoted for the Basic Safety Limits and/or Basic Safety Objectives?

Answer The revision of HSE's Safety Assessment Principles has resulted in no fundamental shift in the numerical targets though there are some changes in detail. The targets are to assist HSE's assessors in making judgements and most of them are not mandatory; those that are mandatory are existing legal limits. HSE has made onsite and off-site effects more consistent and has identified individual risk levels for the site (consistent with its publication on "Reducing Risks Protecting People and Tolerability of Risk) and dose tables for individual facilities. The SAPs will give explanation for derivation of risk targets but HSE intends to produce a further document soon detailing the reasons for the limited changes to other targets.

Country	Article	Ref. in National Report
Ireland	General	

Question/ Removal of Fuel from the Dounreay Fast Breeder

Comment Is there an envisaged timescale for the removal of this fuel as referred to in Section L 2. 88 and where is it planned to store it?

Answer The fuel will be removed from the DFR reactor over the period of 2009 – 2012 and packaged in 500 litre drums for interim storage at Dounreay.

Country	Article	Ref. in National Report
Ireland	General	

Question/ Discharge of tritium from desiccant in AGRs

Comment It is noted in Section L 2 84 that options include disposal to the environment of the tritium followed by conditioning or encapsulation and disposal to Drigg. Could UK provide information on the environmental impact of this option?.

Answer A small number of campaigns of dessicant washing have been carried out at Torness and the other at Heysham. The tritium discharges resulting from two of typical campaigns are dealt with separately below.

Torness Power Station washed and encapsulated 52.75 tonnes of desiccant in 2002/3, releasing an additional 2 TBq of tritium in liquid effluent over and above the routine annual tritium discharge of approximately 300 TBq. This equates to about 0.7% of the routine 12 month rolling tritium discharge. The process also resulted in the release of airborne tritium, an additional 25.7 GBq was released, representing about 13% of the routine 12 month rolling aerial discharge of 200 GBq.

The adult critical group dose from an annual liquid discharge of 2 TBq tritium is calculated to be 0.023 microSieverts, and that from an annual aerial tritium discharge of 25.7 is <1 nanoSievert.

The desiccant washing trial campaign at Heysham treated 21 tonnes of desiccant, which resulted in an additional 1.42 TBq of tritium being discharged in the form of liquid effluent from the station. This discharge was equivalent to approximately 0.6% of the tritium discharged in liquid effluent by Heysham 2 during the same year (250 TBq in 1999) or 0.2% of the tritium discharged from the Heysham site as a whole (650.24 TBq in 1999).

The discharge of tritium to sea from dessicant washing contributes less than 1% of the routine discharge from AGR power stations. To date, the total quantities of conditioned radioactive waste from this process disposed of to the Low level Waste Repository, at Drigg are given below:

Raw waste volume: 121.4 m<sup>3</sup>

Tritium: 521.6 GBq  
 C-14: 1.42 GBq  
 Co-60: 0.0272 GBq  
 Other alpha-emitters: 0.7 MBq  
 Other beta-emitters: 0.3 GBq

These disposals were made over several years and amount to a very small contribution to the inventory of the LLWR, at Drigg.

Country	Article	Ref. in National Report
Ireland	General	

Question/ Remediation of shaft and silo at Dounreay

Comment It is noted in Section L 2. 88 that it is planned to clear these at the “earliest practicable date”. Given the diverse nature of the waste and contaminated objects, how will they be conditioned, stored and/or disposed of?

Answer The wastes arising will be treated according to their different classification (e.g. as low level waste etc.) The NDA intends to review its strategy on the treatment of waste in the light of UK Government decisions on the outcome of CoRWM and the low level waste review. In the meantime the licensee manages waste on an interim basis on its site.

Country	Article	Ref. in National Report
Ireland	General	

Question/ Contaminated beach at Dounreay

Comment The detection of contaminated particles has received widespread coverage in the media and there are suggestions that clean up will seriously stretch the resources of the NDA. Information is requested on the current status of proposals to address this issue and on how and where any dredged material might be stored or disposed of.

Answer Historically the processes used to filter and treat liquid effluent at Dounreay were not as robust as they are now. Consequently, a quantity of irradiated fuel fragments was inadvertently discharged along with batches of liquid effluent and these particles are now distributed within offshore sediments. Due to the action of waves and tides the particles are migrating away from the site and a small proportion are appearing on local beaches.

The long term management strategy for these particles is not yet decided, although a wide range of options has been suggested. Clearly the strategy for dealing with the particles will be influenced by their intrinsic hazard, so the results of the detailed scientific investigations into this aspect are particularly important. The implications of the potential management strategies are widely different and have yet to be quantified. Therefore, on the specific question of dredging, it is not yet possible to provide details of how any dredged material might be handled, stored, processed or disposed of.

More information on Dounreay particles, potential management options and the stakeholder engagement activities outlined above is available from [www.ukaea.org.uk](http://www.ukaea.org.uk).

Country	Article	Ref. in National Report
Ireland	General	

Question/ Section K  
Comment

In paragraph K.20 it is reported that the UK is working on a review of its 2002 discharges strategy and that will reflect ‘.... the possibility of new nuclear build’. Can the UK confirm if this review will represent the revised UK National report for meeting its OSPAR commitments for ‘progressive and substantial’ discharge reductions?

Answer The UK Strategy for Radioactive Discharges, published in 2002, was submitted to OSPAR as the UK national plan for achieving the objective of the OSPAR radioactive substances strategy. The stated aim of the document is “to implement the UK’s obligations in respect of the OSPAR strategy rigorously and transparently”. The national plans of OSPAR Contracting Parties were assessed prior to the OSPAR Ministerial meeting in 2003 to determine whether their combined effect would be to deliver the OSPAR objective. The next such assessment of national plans will take place prior to the 2010 OSPAR Ministerial Meeting. The revised UK Discharges Strategy, updated as necessary, will constitute the UK’s national plan for that assessment.

Country	Article	Ref. in National Report
Netherlands	General	A-27

Question/ A-27 To ensure Nirex advice is independent of the nuclear industry, the company was taken into joint Defra/DTI  
Comment ownership from 1 April 2005: a jointly owned shareholding company has been established for this purpose. The long-

term future of Nirex will be decided in light of CoRWM's recommendations and policy decisions taken by Government in light of them. Further information on Nirex can be found at paragraphs B-47 and B-48. Question: Could this lead to financial liabilities of Defra/DTI for funding the disposal of wastes, once NIREX has provided a letter of compliance (especially for HLW and the future and therefore unknown recommendations of CORWM)?

Answer Nirex only currently gives advice and issues Letters of Compliance for packaging of Intermediate Level Waste, according to the standards and specifications it has developed alongside its geological disposal concept. This advice is given under individual contractual agreements between Nirex and waste producers, which clearly specify the limits of the service to be provided and the liabilities of each party. It should be noted that these standards and specifications are also compatible with the other long-term waste management options short-listed for consideration by CoRWM.

Country	Article	Ref. in National Report
Netherlands	General	A-27

Question/ Comment Question: In B-47 and B-48 NIREX is not mentioned. Are B-44 and B-45 the references actually meant?

Answer You are correct, thank you for pointing out this error.

Country	Article	Ref. in National Report
Netherlands	General	L2.17

Question/ Comment The UK accepts the decision of the owner of any radioactive material as to whether there is any foreseen use for that material and hence whether it is radioactive waste. Question: In most countries the focus is not solely on the question whether a material is a waste or not. The focus, however, is on the complete process where at one or more points waste will arise. How is this reflected in the UK legislation? As an example, spent fuel can be regarded as not being waste if it will be reprocessed. Through what mechanism will the owner, who decides that his spent fuel is not waste, be obligated to build up a sufficient financial provision for treatment and disposal of HLW, that will eventually arise from the spent fuel?

Answer Radioactive waste management during operations is a cost that must be provided for within the business being carried out. Under UK accounting standards (FRS12) an owner of a nuclear asset must provide for the decommissioning cost at the point of commissioning. In the case of nuclear decommissioning this is principally at the point of introducing active material, when the obligation to decommission arises.

Country	Article	Ref. in National Report
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	Czech Republic	Article 4	
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Question/ Comment: This part of National report contains only very generic statements in form of cited and commented license conditions and guidances. As in first National report no compliance how these requirements and the obligations of the JC are achieved for concrete facilities and activities is provided.

Answer Comment noted. The reason for giving generic information is because each licensee is free to decide how it meets the UK's nuclear safety legislation. Hence, giving one approach over another would be inappropriate.

	Country	Article	Ref. in National Report
	France	Article 4	Section G/H Page 59

Question/ Illustration examples of PSA implementation and results should be helpful.  
Comment

Answer The comment is noted. The parties to the Joint Convention will need to consider whether this should be promoted for inclusion in future National Reports.

	Country	Article	Ref. in National Report
	France	Article 4	Section G/ H P 51-67

Question/ Examples could usefully illustrate this chapter.  
Comment

Answer The comment is noted. The parties to the Joint Convention will need to consider whether this should be promoted for inclusion in future National Reports.

	Country	Article	Ref. in National Report
	Ireland	Article 4	

Question/ Para GH-34 refers to safety validation and safety inspections. In the light of the Thorp incident at the Sellafield facility (referred to, inter alia, in Page iv), and the operator's report on the incident as published indicating operational complacency, etc., and a leak which went undetected for a number of months, what are the operational and regulatory responses to the fundamental safety concerns raised by the report and the implications for operational safety at the overall Sellafield complex?.

Answer The operator's (BNGSL) report included a number of actions. BNGSL staff have been addressing these actions and have

indicated to HSE those that should be completed prior to requesting consent to restart of Thorp (the Thorp plant is currently shutdown and cannot restart shearing of fuel without HSE Consent).

In terms of the regulatory response, HSE conducted its own investigations into the incident independent of BNGSL's own internal investigation. HSE have informed BNGSL of the actions to be completed prior to restart of Thorp operations, which include the closeout of BNGSL's report actions.

HSE are seeking assurances, and securing improvements as necessary, regarding the operations of the overall Sellafield complex. HSE has established a team to consider a range of issues including BNGSL's response to recent events on the site, safety culture and management issues, and the influence of the corporate centre on safety.

Country	Article	Ref. in National Report
Ukraine	Article 4	G/H, GH-7, page 52

Question/ Comment How high are actually biological and chemical risks resulting from the practice of spent fuel handling, storage and processing?

Answer We believe this question is outside the scope of the Joint Convention. But such risks are limited by Health and Safety at Work and other legislation, and then reduced so far as is reasonably practicable.

Country	Article	Ref. in National Report
Germany	Article 5	p. 53

Question/ Comment In section GH-9 it says that for spent fuel management and reprocessing facilities the safety case is reviewed every ten years. Does this requirement also apply to other radioactive waste management facilities, especially facilities for the long-term interim storage of radioactive waste?

What are the main aspects that have to be considered in safety re-assessments with regard to the safety of long-term interim storage?

Answer It is a condition of the site licence that licensees must undertake periodic and systematic reviews and reassessment of safety cases. This applies to all facilities on a licensed site including radioactive waste management facilities.

Periodic Safety Reviews (PSR) are currently undertaken on a 10 year cycle in response to the licence requirement. NII's expectations for these reviews are explained in the document T/AST/050, which can be found at

[http://www.hse.gov.uk/foi/internalops/nsd/tech\\_asst\\_guides/tast050.pdf](http://www.hse.gov.uk/foi/internalops/nsd/tech_asst_guides/tast050.pdf). This identifies the following main aspects that need to be considered in any review:

- a) identify and address appropriately any ageing processes that may limit the safe life of any items;
- b) review changes in relevant safety standards, analytical methodologies (including possible changes in the circumstances or ranges for which they have been validated), and inspection techniques, apply them as appropriate, evaluate any deficiencies, and implement reasonably practicable improvements to enhance safety;
- c) include in the PSR Submission a listing and explanation of all plant, process, procedural, analytical or other improvements identified during the review, ranked in order of nuclear safety significance;
- d) confirm the validity of all relevant plant and process information and documentation;
- e) identify the programme of work to address the improvements which could not be implemented during the review;
- f) review operating experience;
- g) review changes to the licensee's organisational structure and resources to consider their cumulative impact and to determine if the current position is adequate for continued safe operation of the plant or site.

Country	Article	Ref. in National Report
Germany	Article 5	p. 92 and 93

Question/ Can you describe in more detail the waste management of the waste named "sea-disposal packages"?

Comment What clearance levels have been established for the disposal of very-low-level waste together with domestic refuse at landfill sites or for incineration and which for reuse of metal scrap or for the release of sites from remediation? Does the modelling of these clearance levels depend on the 10 µSv-concept?

Answer First question: When the UK took the decision in 1982 to end the disposal of solid wastes at sea, a quantity of waste remained in "sea disposal packages". These wastes have since been stored in their original drums. The packages are now being opened and the waste sorted, conditioned and re-packaged for long-term management, in line with current criteria.

Second question: The unconditional exemption of the materials described in the Radioactive Substances (Substances of Low Activity) Exemption Orders of 1986 and 1992 is consistent with the "order of 10 micro Sievert" concept.

Country	Article	Ref. in National Report
Japan	Article 5	P53, para.GH-12

Question/ It is said that “Work has started in the UK on developing a new regulatory regime specifically for radioactively contaminated land resulting from past practices on non nuclear licensed sites” in the paragraph GH-12. Could you give us examples of the site concerned?

Answer Past practices to be addressed by the new regulatory regime include works where radium was used to luminise timepieces or instruments; and where thorium compounds were used in the production of incandescent gas mantles.

Country	Article	Ref. in National Report
Japan	Article 7	p58, L26,para. GH-27

Question/ What kind of design basis accidents (DBA) are assumed in the design or safety evaluation of spent fuel storage facilities?

How are the evaluation events prescribed in safety guides or technical requirements?

Answer The UK adopts a generic approach to the regulation of nuclear facilities, leading to broadly similar requirements for a range of facility types, including; operational and decommissioning power reactors; fuel fabrication plants; and spent fuel storage and reprocessing facilities. In the context of DBA, nuclear Licensees are expected to identify, on a case-by-case basis, all initiating faults with the potential to lead to any person (either on or off the site) receiving a significant dose of radiation. The consequences of these initiating faults are then evaluated on a conservative basis leading to the identification of appropriate preventative, protective and mitigating measures to address these initiating faults.

Each licensee (operator) has a duty to demonstrate that the risks from operating its facility are reduced to as low as reasonably practicable (ALARP). In the case of a spent fuel storage facility, the DBA analysis, supported by appropriate probabilistic safety analysis (PSA), forms a key component of this demonstration (termed the safety case). HSE assesses the Licensee’s safety case and, if satisfied that the analysis is suitable and sufficient and meets all other relevant regulatory requirements, will permit Licensable operations at the facility.

Typical DBAs considered in safety cases for operational (wet) spent fuel facilities would normally include faults leading to: loss of water coverage; loss of water chemistry control; criticality events; hydrogen deflagration; and relevant external hazards. As already stated, the precise list of initiating faults considered within these safety cases is not prescribed by regulation; instead this is determined by the Licensee on a case-by-case basis and then assessed by the regulator. HSE’s generic expectations in regard to DBA analysis are set out in its safety assessment principles (SAPs).

	Country Czech Republic	Article Article 8	Ref. in National Report
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Question/ Comment Systematic environmental assessment: the dose constraint before the control period is not explicitly set for disposal? It does mean that in the case of absence of other facilities, the dose limit is 0,5 mSv/yr? No dose limit seems to be applied after the control period. No problems with interpretation of risk criteria to regulatory body and/or to public?

Answer The dose constraint is applied prospectively in the environmental assessment of future operation of a facility. At the end of the control period there is a presumption that any further risks are not of regulatory concern, hence there will be no assessments to apply dose constraints to. For actual doses at any time whether during operation or after the control period, the dose limit remains 1mSv/y.

	Country Czech Republic	Article Article 8	Ref. in National Report
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Question/ Comment Dose constraint: Is there any safety role in operational safety and/or emergency preparedness that would play collective dose? Is the dose limit of adult employees identical for operation (20 mSv/yr.) and for activities connected to adjustment of consequences of accidents?

Answer In the UK dose constraints are associated with the planning phase rather than the operational phase. A dose constraint is a source related, prospective, planning quantity that is used to restrict doses calculated as part of the optimisation process (e.g. design of new facilities or modifications to existing facilities). The primary means of constraining doses both to workers and the public is the application of the ALARA principle. Collective dose is one of the factors taken into account in decision-making in the application of ALARA. In relation to emergency preparedness, countermeasures should be both justified and optimised. Such optimisation would consider collective dose.

The dose limit for employees in the UK applies to operational situations, and to recovery operations following a radiation emergency. However, in the event of a radiation emergency the dose limits do not apply to the period of intervention, i.e. the critical phase where efforts are made firstly to stop the emergency from escalating and secondly to bring the situation under control so that recovery can commence. UK regulations require that operator's emergency plans include emergency exposure levels, set in advance, to be applied to those employees involved in intervention. These levels may be in excess of the normal dose limits.

	Country	Article	Ref. in National Report
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France	Article 8	Section G Page 59
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Question/ Is the verification process supported by technical experts on request of the inspector?

Comment

Answer HSE uses the term 'inspectors' for all its regulatory staff. Some inspectors will apply their specialist skills to examination of the licensee's safety cases. The inspector leading an assessment can call on whichever HSE specialist staff are necessary for the particular safety case. If external technical assistance is required, this is arranged by the appropriate specialist who can then make the regulatory judgement based on the technical response.

Country	Article	Ref. in National Report
Japan	Article 8	p60,L18,para.GH-36

Question/ Please show the basis (or it's background) of 0.5 mSv as the annual effective dose constraint to a representative

Comment member of the critical group.

Is this value, constraint, also applied to the dose by direct and sky-shine radiation from facilities in addition to discharges?

Answer The 0.5 mSv dose constraint only includes doses resulting from radioactive discharges, it will therefore include skyshine from any airborne discharge plume, but will not include direct radiation from the plant.

The 0.5 mSv constraint is a feature of a formal Direction from the Secretary of State for Environment, Transport and the Regions, to the Environment Agency (The Radioactive Substances (Basic Safety Standards) (England and Wales) Direction 2000). Prior to this the concept of a site constraint at this level had been included in two earlier Government White Papers (Command 2852, 1986 and Command 2919, 1995). It has had legal status as a dose constraint in England and Wales since the Direction in 2000.

Country	Article	Ref. in National Report
France	Article 9	Section G Page 61

Question/ Are the OLC's submitted to the review by the regulator ?

Comment

Answer The Site Licence includes requirements to produce an adequate safety case to demonstrate the safety of that operation and to identify the conditions and limits necessary in the interests of safety. The regulator carries out a review of Operating Limits and Conditions (OLCs) as necessary as part of the process of reviewing the plant safety case prior to

allowing operations.

Beyond the initial review of the safety case, the licensee must operate a safety case management regime where safety cases are subject to period review, and are also updated if plant modifications are required. Their arrangements must include a categorisation of safety significance of these changes. Should a safety case make changes to the OLCs (other than of the most minor significance) then the safety case and the OLCs must be submitted to the regulator for review.

Country	Article	Ref. in National Report
Canada	Article 12	GH-12

Question/ Intervention for Past Practices  
Comment

You have indicated that the UK is developing a new regulatory regime specifically for radioactively contaminated land resulting from past practices on non nuclear licensed sites. Furthermore, the extended regime will provide such a system for the identification and remediation of contaminated land.

1) Please provide the status of the draft Regulation and associated draft Statutory Guidance

2) What criteria were used to identify lands that require remediation?

3) How many lands will require remediation?

4) Who is responsible for the remediation of these lands?

5) Who will regulate the remediation of the lands?

Answer In answer to your question:

1) The regulations and associated guidance on radioactively contaminated land are being drafted.

2) The criterion is that remediation should be undertaken when there is a lasting exposure of 3mSv/year, subject to the principle of justification.

3) The number of sites that will need remediation is uncertain. One or two hundred may need investigation but until the investigations are undertaken, there is no indication how many, if any, sites will meet the criterion.

4) In the first instance the person who knowingly caused or permitted the contamination will be responsible for

remediation. If they cannot be found the owner or occupier of the land will be responsible.

5) The relevant environment agency will regulate remediation.

Country	Article	Ref. in National Report
France	Article 12	Section G/H Page 53

Question/ Could UK provide information on the installations resulting from past practices?

Comment

Answer Possible installations include works where radium was used to luminise timepieces or instruments; and where thorium compounds were used in the production of incandescent gas mantles.

Country	Article	Ref. in National Report
United States of America	Article 12	53

Question/ A public consultation on draft regulations and guidance for interventions dealing with radioactively contaminated land resulting from past practices concluded on 9 October 2005. What was the outcome? What next steps are planned?

Answer In due course regulations will be published together with statutory and procedural guidance.

Country	Article	Ref. in National Report
Bulgaria	Article 13	H-19

Question/ Would you clarify the differences between the present site selection policy and the initial policy? What is understood by Comment "remote site"?

Answer The UK nuclear programme began in the 1950s, when there were no rules for designing, building, or operating nuclear sites, and no experience of how they might perform. It was clearly recognized that they were part of a new technology that could pose significant new hazards, and that those hazards could cause harm over a wider distance than just the site boundary.

As a result, the UK government took advice from its own UK Atomic Energy Authority and a Nuclear Safety Advisory Committee, and their advice was that new, untried nuclear plants that had a significant potential to cause harm should be sited well away from members of the public – a so-called 'remote site'.

Such a site should meet the following criteria:

1. Few people should be exposed to extreme risk and they would be evacuated in the event of an emergency;
2. Protracted evacuation or severe restriction on normal living would only be imposed on small populations; and
3. Temporary evacuation would be limited to no more than 10,000 people under normal weather conditions and 100,000 under abnormal weather conditions.

More detailed criteria set further limits on the total populations within circles drawn around the site at radii of 0.531, 1½, 5, and 10 miles (0.54, 2.42, 8.05, and 16.1 kilometres, respectively), and on the maximum populations living within 10 degree sectors out to each radius.

Later, once the technology had matured, it was decided that these criteria could be relaxed for the more modern designs of the plants that had already been in operation, although the same three general principles would apply. New population densities were defined, and the description was relaxed from 'remote' to semi-urban'.

The policy remains the same, in that a completely new design (to the UK) would be constrained to a remote site, a UK 'proven technology' would be considered for a semi-urban site.

Country	Article	Ref. in National Report
France	Article 13	Section G/H Page 55

Question/ What is the procedure implemented for moving the decision centre from local authorities to relevant Ministers for Comment Planning permission?

Answer Any planning application that is of greater than local significance can be identified by officials in the regional branch of the Office of the Deputy Prime Minister (ODPM) as a candidate for referral to Ministers. Where officials consider that Ministerial "call-in" is justified in a particular case, they will recommend this in a written submission to the relevant Minister. If the Minister agrees with the recommendation, the responsibility for the planning decision formally moves from the local authority to the ODPM.

Country	Article	Ref. in National Report
Hungary	Article 14	GH-21 p. 57

Question/ Has the licensee to review periodically, whether the construction of the facility still applies the "best practicable means"?

## Comment

**Answer** The requirement to use best practicable means (BPM), to minimise the creation of radioactive wastes and to minimise discharges to the environment, is a condition of all authorisations issued to nuclear operators. The nuclear operator must continually assess what constitutes BPM for its facility. What constitutes BPM at the time of construction will not necessarily be BPM some years later. Failure to use BPM is a criminal offence in the UK.

In addition to the standard BPM condition in authorisations it is common to include improvement conditions to ensure that the operator keeps abreast of current best practice. Conditions of the following type are now included at periodic reviews of discharge authorisations.

1. The Operator shall provide the Agency with a full report of a comprehensive review of whether the current disposal routes continue to represent the best practicable environmental option for waste disposal from the site, together with a programme for carrying out any necessary changes identified by the review. Three years from the effective date of this Authorisation and at such intervals thereafter as the Agency specifies in writing.

2. The Operator shall provide the Agency with a full report of a comprehensive review of national and international developments in best practice for minimising all waste disposals, together with a strategy for achieving reductions in discharges. Three years from the effective date of this Authorisation and at such intervals thereafter as the Agency specifies in writing.

The Energy Act, 2004 imposed a requirement on the environment agencies to periodically review authorisations they have granted, to ensure they continue to provide adequate protection of the general public and the environment. These periodic reviews provide an additional opportunity to assess whether existing practices are BPM. If for example a new abatement technique is considered to be necessary, by the environmental regulator, its installation at the facility can be made the subject of an improvement condition, similar to those above, with a specified implementation period.

Country	Article	Ref. in National Report
Hungary	Article 15	GH-31 p. 59

**Question/** When was the safety case the last time updated for the Drigg facility? Why was it necessary, and what was the **Comment** conclusion?

Answer The safety case covering treatment and disposal operations for the Low Level Waste Repository (LLWR) at Drigg is fully reviewed every ten years, as for all UK nuclear licensed sites. This was last done in 2003 when the safety case was updated in line with modern safety case standards. This concluded that operations were adequately safe subject to regular reviews. The revised safety case was implemented in November 2003. It has since been subject to annual review and in 2006 will undergo a Short Term Periodic Review as it is three years since it was first implemented.

In addition to the reviews described above, the Environment Agency has reviewed the Post-closure Safety Case for the LLWR and is in the later stages of a major periodic review of the radioactive waste disposal authorisations to, and from, the LLWR.

Taking into account the possible effects of coastal erosion in the future, the Environment Agency has amended the conditions of the authorisation regarding solid waste disposal on the site. BNGSL can continue to dispose of low-level solid radioactive waste in the current disposal area.

The Environment Agency will not authorise disposals in a proposed new vault until BNGSL has provided a detailed risk management study to demonstrate that the potential future impacts from coastal erosion are minimised. The report of this study is required within two years from the date of the new authorisation. The Environment Agency will then review the remaining capacity of the LLWR, and publish its findings. BNGSL will not be allowed to construct the final cap over the older disposal areas at the site until the Environment Agency has received this study.

The authorisation also includes updated conditions regarding discharge of radioactivity to atmosphere, discharge of contaminated water via a pipeline to the Irish Sea, and transfer of solid waste to the Sellafield site.

Copies of the Environment Agency's Decision Document, outlining the conditions of BNGSL's new authorisation and explaining how the Agency arrived at its conclusions, are available on the Environment Agency website, [www.environment-agency.gov.uk](http://www.environment-agency.gov.uk)

Country	Article	Ref. in National Report
France	Article 16	Section G/H Page 63

Question/ How is managed the definition of waste acceptance criteria in view of disposal?

## Comment

**Answer** When radioactive waste is disposed of in an operational waste repository in the UK, waste packages are required to meet Waste Acceptance Criteria (WAC), sometimes referred to as Conditions for Acceptance (CfA). WAC are produced and issued by the facility operator, having been prepared in conjunction with the relevant regulatory authorities. This is the case for the UK LLW Repository at Drigg in Cumbria.

For other categories of radioactive waste no WAC currently exist, since no operational facilities are available for the long-term management of these wastes in the UK. However, to meet the need for existing wastes to be converted into passively safe and disposable forms as soon as is reasonably practicable, Nirex has developed the Generic Waste Package Specification (GWPS – Nirex Report N/104) for ILW and certain categories of long-lived LLW. The prime purposes of the GWPS are to provide the UK nuclear industry and regulators with a coherent set of requirements in advance of a long-term management facility and to provide a basis for the assessment of the suitability of waste packaging proposals.

Using the same principles as those adopted for ILW/LLW in the GWPS, Nirex has produced a Specification for Waste Packages Containing Vitrified High Level Waste and Spent Nuclear Fuel (Nirex Report N/124).

The approach outlined above, for the production of the GWPS as forerunners to WAC, is consistent with IAEA Guidance on the production of WAC, in particular with that described in IAEA TECDOC-864 (Requirements and Methods for Low and Intermediate Level Waste Package Acceptability, 1996).

Country	Article	Ref. in National Report
Czech Republic	Article 17	

**Question/** Institutional control: What is the assumed period of institutional control for repositories for various types of waste?  
**Comment**

**Answer** It is for the person legally in control of the facility prior to and during operation (referred to as the developer or operator) to substantiate the duration and effectiveness of post-closure institutional control.

For intermediate level waste and spent nuclear fuel repositories, this question is being considered nationally as part of the Committee on Radioactive Waste Management consultative exercise. For low level waste repositories, a site-specific

and risk-informed approach will be adopted, taking full account of radiological inventory, site characteristics and facility design & construction.

Country	Article	Ref. in National Report
Japan	Article 17	p.65,GH59,60,61

Question/ Comment In the Para. GH-59-61, institutional measures after closure are reported. Following questions are about institutional controls for TRU waste repository.

What range of time duration after the closure is envisaged for the institutional control as the regulatory safety requirement?

What kind of institutional measures will be continued even after the closure of disposal facilities and what sort of basis, such as, management system or law system could take credit of those measures?

What sorts of institutional measures are taken into consideration as the effective credits to the regulatory radiation control after the closure of disposal facilities? An example we have in our mind is that by having markers/monuments/symbols at the repository, scenario of unintentional boring could be avoided and reduction of exposure could be expected.

Answer Duration of Institutional Control:-

It is for the person legally in control of the facility prior to and during operation (referred to as the developer or operator) to substantiate the duration and effectiveness of post-closure institutional control.

For intermediate level waste and spent nuclear fuel repositories, this question is being considered nationally as part of the Committee on Radioactive Waste Management consultative exercise. For low-level waste repositories, a site-specific and risk-informed approach will be adopted, taking full account of radiological inventory, site characteristics and facility design & construction.

Institutional Measures:-

It is for the repository developer to demonstrate that the institutional measures it proposes to put in place constitute Best Practicable Means to ensure adequate containment of radioactive waste over the time scales necessary to ensure compliance with the regulatory risk target of 10E-6.

After closure of the disposal facility, we would envisage a possible period of active control by the operator. During this period measures such as site security, systems surveillance, and environmental monitoring, coupled with intervention where necessary to ensure the integrity of the repository barrier systems, may be appropriate.

Following the period of active control there might then follow a period of passive control when local planning and development control regulations would restrict the use of the land. The time at which the possibility of inadvertent human intrusion would need to be taken into account would depend on the substantiated duration and effectiveness of post-closure institutional control.

#### Marking of Repository Sites:-

It is for the operator to justify the post-closure state of the facility, including any use of 'markers' to draw attention to the site. The concept has some merit, principally in providing a means of warning future generations of the repository's presence. However, this has to be balanced against the risk that such markings may arouse curiosity in those who do not understand the hazards posed by the contents of the repository, and may in fact increase the risk of human intrusion and consequent inadvertent exposure. The careful consideration of how such markers are placed will therefore be a key factor in determining the value of their use. This question requires further consideration within the UK, at a national level, before a regulatory position can be arrived at.

Country	Article	Ref. in National Report
Japan	Article 17	p.65,GH59,60,61

Question/ Comment In the Para.GH-60, it is said that best practicable means are employed after withdrawal of control. In the Para.GH-61, it is said that institutional controls cannot be relied upon in the longer term.

What kinds of legislation or nuclear safety regulation are envisaged to ensure sustaining sound institutional measures in the longer term? Nuclear regulation, Environmental protection or others?

What sorts of institutional measures are taken into consideration as regulatory effective credits? Before and after withdrawal of control, respectively.

An example we have in our mind is that by setting protective area to exclude from human activities such as excavation.

Answer As stated in paragraph GH-61, institutional controls cannot be relied on in the longer term after closure of a radioactive

waste disposal facility. Thus, no form of legislation or regulation, that might be envisaged to be applicable at that time, will necessarily ensure the safety of the facility.

The person legally in control of the facility prior to and during operation (referred to as the developer or operator) is required by the regulator to provide a safety case for the longer term. This safety case must meet the radiological and technical requirements specified by the regulator without reliance on control measures in any form. However, the developer or operator is entitled to make a safety case for the facility during the period before withdrawal of control which invokes control measures such as setting a protective area to prevent human intrusion. A safety case which invokes such control measures, including the period of time claimed for institutional control, will be judged by the regulator on its merits at that time.

Country	Article	Ref. in National Report
Slovakia	Article 17	

Question/ Comment What are the requirements for long-term records management (media, language, safety of records, etc.)?

Answer Site licensees are obliged under the site licence conditions to maintain records. Site licence conditions which apply are:

- LC6 Documents records authorities
- LC25 Operational records
- LC35 Decommissioning

HSE's expectations for the records relevant to radioactive waste and decommissioning are described in its document T/AST/024 "Management of Radioactive Materials and Radioactive Waste on Nuclear Licensed Sites", which can be found on the HSE's website [www.hse.gov.uk](http://www.hse.gov.uk).

To provide further assurance, the NDA is investigating establishing a "Nuclear Archive".

Country	Article	Ref. in National Report
France	Article 18	Section G/H Page 65

Question/ What is the maximal expected duration of institutional control (active and passive)?

## Comment

**Answer** It is for the person legally in control of the facility prior to and during operation (referred to as the developer or operator) to substantiate the duration and effectiveness of post-closure institutional control.

For intermediate level waste and spent nuclear fuel repositories, this question is being considered nationally as part of the Committee on Radioactive Waste Management consultative exercise. For low-level waste repositories, a site-specific and risk-informed approach will be adopted, taking full account of radiological inventory, site characteristics and facility design & construction.

Country	Article	Ref. in National Report
France	Article 19	Section E P 25- 28

**Question/ Comment** Could UK detail the interfaces between HSE and Environmental Agencies for environment radiological survey and releases optimization implementation? Are there procedures defining coordination between HSE inspectors and Environment Agencies inspectors?

**Answer** The interface between the environment agencies and HSE on licensed nuclear sites is co-ordinated by means of agreements known as Memoranda of Understanding, which can be found at:

[http://www.environment-agency.gov.uk/commondata/103599/nuclear\\_mou\\_final\\_version.doc](http://www.environment-agency.gov.uk/commondata/103599/nuclear_mou_final_version.doc)  
[http://www.sepa.org.uk/pdf/policies/mou\\_sepa\\_hse\\_nuclearsites.pdf](http://www.sepa.org.uk/pdf/policies/mou_sepa_hse_nuclearsites.pdf)

These codify the comprehensive working arrangements between the environmental regulators (the environment agencies) and HSE. In relation to environmental radiological surveys, the environment agencies are the lead organisations. They impose requirements on site operators, through certificates of authorisation, to perform regular monitoring of the environment around their sites.

When determining applications for discharge authorisations or considering the revocation or variation of existing authorisations the environment agencies have a statutory duty to consult HSE. Optimisation of releases is also considered during the determination of applications for authorisation, and again HSE is consulted.

The memoranda of understanding also describe the working arrangements for inspection of nuclear sites. HSE and the

environment agencies discuss inspection plans, agree appropriate joint inspections and exchange information on matters of mutual interest. Inspection of the radiological survey arrangements and optimisation of releases are carried out under these arrangements and, where appropriate, dialogue between the HSE and environment agencies takes place.

Country	Article	Ref. in National Report
Germany	Article 19	p. 21

Question/ Comment It is understood that the erection and operation of a nuclear installation as well as its shutdown and its dismantling (or safe enclosure) requires a license according to NIA65 (Nuclear Installations Act 1965, as amended). Are there any other statutory provisions for the licensing of said activities (within the NIA65)? If so, what are the actual criteria for the (legal) distinction of (1) operation and shutdown, (2) shutdown and dismantling?

Answer The Nuclear Installations Act gives HSE the power to grant a site licence for a nuclear installation. A single licence covers the whole of the life of the facility from the start of construction through to the end of decommissioning. Regulation of the nuclear installation is through the conditions attached to the site licence and the same conditions are applied to all installations throughout their lives. From the viewpoint of licensing, there is no distinction between the different stages of the life of an installation.

Country	Article	Ref. in National Report
Germany	Article 19	p. 32 and p. 41

Question/ Comment The report says that the producers and owners of radioactive waste bear the cost of managing and disposing of the waste. Is there any legal obligation to do this or is it a kind of voluntary agreement between the waste producers and the regulatory bodies? How does the financing take place in practice? Are there any regular payments into funds specifically established for the financing of future repositories?

Answer Radioactive waste management during operations is a cost that must be provided for within the business being carried out. Under UK accounting standards (FRS12) an owner of a nuclear asset must provide for the decommissioning cost at the point of commissioning. In the case of nuclear decommissioning this is principally at the point of introducing active material, when the obligation to decommission arises.

For sites owned by the Nuclear Decommissioning Authority (NDA), funding is a combination of general Government spending and revenue from commercial activities on NDA sites.

Under the terms of the restructuring of British Energy, the future costs of the final disposal of radioactive waste/spent fuel will be picked up by the DTI, BNFL or the Nuclear Liabilities Fund (BE's segregated fund, into which BE makes contributions but which is underwritten by Government.) The responsible organisation depends on the type of waste. The DTI is financially responsible for management of historic spent AGR fuel (i.e. that fuel loaded into BE's reactors prior to 14 January 2005.). BNFL has taken financial responsibility (under new contracts with BE) for the management of future spent AGR fuel (post 14 January 2005). The NLF will meet the costs of managing all other BE related waste.

The decision on whether to have a repository or any other long-term solution is still out for consultation.

Country	Article	Ref. in National Report
Germany	Article 19	p. 35

Question/ Comment As stated in L2.17., "... the UK accepts the decision of the owner of any radioactive material as to whether there is any foreseen use for that material and hence whether it is radioactive waste". What decisions have been made concerning the reprocessed uranium and the depleted uranium in the UK and what are the further options for reuse or waste management?

Answer Decisions on these issues have not yet been made. However, options for reprocessed uranium are currently being considered by the NDA as announced in its Strategy published 30 March 2006. It will be conducting a review of all uranic material and will advise Government in due course.

Country	Article	Ref. in National Report
Hungary	Article 19	E.45-47 p. 26

Question/ Comment In what manner is the jurisdiction of the various authorities in England, Scotland, Wales and Northern Ireland harmonized in the field of radiation protection?

Answer Radiation Protection is enforced by HSE in Great Britain and by HSE (NI) in Northern Ireland. The two authorities use separate legislation, but these are almost identical. HSE approve the Associated Dosimetry Services and Radiation Protection Advisor Bodies (bodies of Qualified Experts) to operate under both sets of Regulations, and HSE (NI)'s regulations recognise Radiation Protection Advisors (Qualified Experts) approved under HSE (GB)'s Regulations. HSE chairs and runs the secretariat for an annual liaison committee between these two bodies and the three environmental agencies (the Environment Agency, Scottish Environment Agency and Environmental and Heritage Service for Northern Ireland).

Country	Article	Ref. in National Report
Hungary	Article 19	E.48-51 p. 27-28

Question/ Comment How are the activities of the environmental agencies harmonized with those of the radiation protection authorities?  
(requirements, inspection, enforcement)

Answer The interface between the environment agencies and HSE on nuclear licensed is codified in Memoranda of Understanding (MoU):

[http://www.environment-agency.gov.uk/commondata/103599/nuclear\\_mou\\_final\\_version.doc](http://www.environment-agency.gov.uk/commondata/103599/nuclear_mou_final_version.doc)

[http://www.sepa.org.uk/pdf/policies/mou\\_sepa\\_hse\\_nuclearsites.pdf](http://www.sepa.org.uk/pdf/policies/mou_sepa_hse_nuclearsites.pdf)

The objectives of the MoUs and the arrangements set out in them are to facilitate effective and consistent regulation by ensuring that:

- activities of the environment agencies and HSE in relation to nuclear licensed sites are consistent, coordinated and comprehensive;
- the possibility of conflicting requirements being placed on licensees, or others operating on nuclear sites (collectively referred to as 'operators' in this memorandum), is avoided;
- synergies are exploited and the appropriate balance of precautions is attained;
- duplication of activity is minimised; and
- public confidence in the regulatory system is maintained.

Country	Article	Ref. in National Report
Ireland	Article 19	

Question/ Management of plutonium

Comment It is noted that UK owned plutonium is now owned by the NDA. How and where is it envisaged that civil plutonium, which is not deemed suitable for reuse, will be stored or disposed of?

Answer UK Civil Plutonium is currently stored safely in secured conditions. A small quantity is currently deemed to be unsuitable for re-use without substantial investment in the treatment required. There are no short term plans for disposal of any of this material.

Country	Article	Ref. in National Report
Ireland	Article 19	

Question/ Comment It is noted in Para E-86 that the UK is urging other owners of plutonium to put in hand on a voluntary basis “ procedures that would allow them to identify those materials that may become not economically viable”. It is not clear exactly what this means – could UK possibly provide clarification on what is meant by this?

Answer Plutonium which is not economically viable is that which is unsuitable for re-use without substantial investment in the treatment required.

Country	Article	Ref. in National Report
Japan	Article 19	Sec.E, page18

Question/ Concerning to the clearance levels, please indicate following matters;

Comment a. plan of the adaptation of the IAEA safety guide RS-G-1.7 to the legislative and regulatory framework,  
b. experiences that wastes being cleared based on the clearance system, such as, cleared amounts, where to be re-used, with or without any restriction to re-use or re-process,  
c. regulatory implementation, such as, clearance levels, its validation, regulatory involvement, competent regulatory body and so on.

Answer a) RS-G-1.7 has not been adopted. UK uses the IAEA standards and guides to inform its regulatory system, it does not adopt them.

b) Records are not kept centrally of material for which no further restrictions or regulatory control is prescribed.

c) The relevant regulatory bodies are the environment agencies. Information on exemption and clearance levels and associated procedures can be found in the Exemption Orders made under the Radioactive Substances Act 1993, at the following weblink:<http://www.defra.gov.uk/environment/radioactivity/government/legislation/exemption.htm>

Country	Article	Ref. in National Report
Netherlands	Article 19	E-83

Question/ Comment The NDA has responsibility for the operation of commercial and waste management activities on their sites and for the eventual decommissioning of those sites. It is funded partly from government and partly from revenue from commercial activities on NDA sites. The NDA is tasked with ensuring it allocates a significant part of its funding to decommissioning and clean up, prioritising its spending and ensuring its risks are both managed and mitigated. Further information on the finances of the NDA are at paragraphs F-14 to F-18. Question: Why is NDA partly funded by the government (contrary to the notion that polluter pays?)

Answer The civil nuclear liabilities that have been designated to the NDA from 1 April 2005 are the legacy of Government nuclear research and development programmes going back to the 1940s and the development, construction and commissioning in the 1950's, 1960's and 1970's of the Magnox fleet of power stations and associated fuel cycle plants. The UK Government firmly believes that the generations that created the nuclear legacy should take responsibility for dealing with it and is committed to funding the full costs of so doing. This is compatible with the "polluter pays" principle given that the various facilities have for the most part been part of or owned by the UK Government for all or most of their operational lives. BNFL is making a contribution commensurate with the time the productive facilities were under its control.

Country	Article	Ref. in National Report
Spain	Article 19	Paragraph B-39

Question/ Comment For LLW, it is mentioned in paragraph B-39 the intention to develop a new disposal facility at Dounreay. Is it possible this new facility to be authorised as an extension of the current authorisation for LLW disposal at Dounreay? If a new authorisation needs to be issued and site selection is needed, one of the siting policies is that there is few population in the area. How is this siting policy issue expected to be fulfilled and which is the quantitative argument to define that "few" concentration of population?

Answer The Scottish Environment Protection Agency (SEPA) has been introducing, for all its regulated sites, multi-media authorisations for the discharge of radioactive waste, that is authorisations covering the disposal of all forms of wastes to all environmental media. It is possible then that any new facility could be authorised within the terms of an existing multimedia authorisation but it is also possible that an entirely new authorisation could be granted. Authorising any new facility under the existing authorisation, however, in no way reduces the controls to be applied, since widespread consultation is a statutory requirement for any application for authorisation to dispose of radioactive wastes on or from a nuclear site.

Concerning siting policy, the North of Scotland is considered to be one of the least densely populated areas of Europe. The administrative areas of Caithness and Sutherland occupy a surface area of 7650 km<sup>2</sup>, with a population density of only 5 inhabitants/km<sup>2</sup>.

Country	Article	Ref. in National Report
Netherlands	Article 20	E-94

Question/ Comment conditioning of intermediate level radioactive waste on nuclear licensed sites” sets out the role of Nirex in relation to the regulators’ statutory functions. Nirex is not a regulator: its role under the improved regulatory arrangements is to assess the waste producers’ packaging proposals and issues a ‘Letter of Compliance’ (LoC) or ‘Letter of Advice’ (LoA) as appropriate, which forms part of the licensee’s safety case submitted to HSE. HSE consults the appropriate environment agency under the MoU and if both regulators are content HSE grants permission for the treatment and packaging of the waste. Nirex’s work is scrutinised by both environment agencies. Question: Why is Defra one of the owners of NIREX? Defra is providing through Nirex the LoC, which forms part of the safety case. Defra is also evaluating the safety case (and thus the LoC) through the MoU of HSE with EA (and SEPA), since EA is accountable to Defra.

Answer The Department of Environment, Food and Rural Affairs (Defra) and the Department of Trade and Industry (DTI) took over ownership of Nirex on 1 April 2005 to honour a commitment to make Nirex independent of industry and under greater Government control. This was also appropriate in light of UK industry changes arising as a result of the creation of the Nuclear Decommissioning Authority (NDA). This was always seen as a holding arrangement until CoRWM has reported and the long-term future of Nirex can be decided in light of the policy decisions made.

Irrespective of its joint ownership, Defra has no involvement in the day-to-day running of Nirex, which provides the Letter of Compliance (LoC). Nirex packaging advice, under the LoC arrangements, is provided to the nuclear operator who then submits it as part of a safety case submission to the Health and Safety Executive (HSE), under the Executive’s site licensing conditions. The HSE itself operates under the jurisdiction of the independent Health and Safety Commission. There is an agreement for HSE to consult EA and SEPA in arriving at its decision on the safety case. It is therefore incorrect to assert that Defra has any role in the safety case evaluation.

Country	Article	Ref. in National Report
United States of America	Article 20	36

Question/ Please clarify any distinction between the competencies, qualifications, and staff level required by each of the regulatory organizations to carry out their functions. The 2006 report references the previous report yet there are no details to this effect in the 2003 report.

Answer The details you request can be found in the UK's national report of 2003 in Annex L.7.3 pages 274 to 282.

Country	Article	Ref. in National Report
Bulgaria	Article 22	A-21, F-13

Question/ How is the estimated amount of £50 billion needed for all the decommissioning and clean-up work for which NDA is currently responsible going to be collected? How is the principle for avoiding imposing undue burdens on future generations applied?

Answer The NDA is funded by a combination of direct Government funding and commercial income from electricity generation at the four operating Magnox Power Stations, the reprocessing and storage of spent nuclear fuel and the manufacture of nuclear fuel. The NDA's budget is determined by the UK Government's Comprehensive Spending Review, which determines funding for the current and following two years, and is allocated on an annual basis. If any of the NDA's current revenue-generating activities under-performs, the NDA must make up any shortfall in its budget.

A key aspect of the NDA's mission is to reduce the cost of the liability by introducing site management competition and encouraging innovation. The NDA is also examining ways of accelerating decommissioning and clean-up in order to further reduce the burden on future generations. The NDA imposes an annual site funding limit (ASFL) on each of its sites and defines, through its contracts with site operators, which costs are allowable and disallowable. Contractors who under-perform or who breach their site funding limit will be subject to financial penalty. Eventually, as a fully competitive clean-up market develops, this will provide further incentive on the contractor to perform or lose the contract.

Country	Article	Ref. in National Report
Germany	Article 22	p. 40

Question/ (1) Are the provisions that are made to meet the waste management costs (as described in F-11 of the UK report) subject to the supervision of state authorities concerning their sufficiency and their availability?

(2) Concerning the privately operated nuclear power plants: Are there any provisions made for the future costs of the final disposal of radioactive waste/spent fuel? If so, are these provisions subject to the supervision of state authorities concerning their sufficiency and their availability?

Answer (1) Are the provisions that are made to meet the waste management costs (as described in F-11 of the UK report) subject to the supervision of state authorities concerning their sufficiency and their availability?

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Country	Article	Ref. in National Report
Netherlands	Article 22	F-11

Question/ Comment The published audited accounts of UK spent fuel, reprocessing and radioactive waste management facility operators[42,43,44] include details of waste management costs and of the provisions made in order to meet them. As there is currently no disposal route for HLW and ILW in the UK, the costs of radioactive waste management primarily comprise:....Question: Is there a sufficient provision for financing the disposal of the HLW and ILW?

Answer For sites owned by the Nuclear Decommissioning Authority (NDA), funding is a combination of general Government spending and revenue from commercial activities on NDA sites.

Under the terms of the restructuring of British Energy, the future costs of the final disposal of radioactive waste/spent fuel will be picked up by the DTI, BNFL or the Nuclear Liabilities Fund (BE's segregated fund, into which BE makes contributions but which is underwritten by Government.) The responsible organisation depends on the type of waste. The DTI is financially responsible for management of historic spent AGR fuel (i.e. that fuel loaded into BE's reactors prior to 14 January 2005.). BNFL has taken financial responsibility (under new contracts with BE) for the management of future spent AGR fuel (post 14 January 2005). The NLF will meet the costs of managing all other BE related waste.

Country	Article	Ref. in National Report
United States of America	Article 22	40

Question/ Comment As stated under F7, "under site License Condition 36 (see Annex 6.2c in first UK report), [the licensee is required] to have arrangements for the control of any change to its organizational structure or resources that might affect safety. HSE does not explain their methodology for changes to safety related staffing evaluation. How does HSE become aware of these changes in these resources and ensure that the licensee reports changes to these resources?

Answer The crux of HSE's requirement to be kept aware of changes to organisational structure or resources is that a licensee's

arrangements made to satisfy LC36 should include appropriate systems and procedures that provide for regulatory control. A licensee is required to have, and adequately execute, a process to identify, evaluate, plan, review, and sanction for implementation, all organisational structure or resource changes that have the potential to impact on nuclear safety. In particular a licensee's arrangements should:

- i) have a change register(s) which lists all changes and their classification in which entries are made in good time to provide for regulatory intervention (normally allowing at least 28 days prior to implementing change);
- ii) facilitate requests for details of a change, for its assessment; and
- iii) require the provision of details of all highest significance category changes for agreement, after the proposal has been approved within the licensee's process.

HSE has identified 4 key management processes that are key to a licensee ensuring that it remains competent to hold a nuclear site licence. These processes relate to the management of work (matching resources to workload), skills (maintaining suitably qualified and experienced personnel), contractors (including intelligent customer capability) and change. In evaluating changes HSE's focus will be on adherence by the licensee to these key processes. Of especially note will be how the licensee has managed and controlled organisational change including its ability to oversee and control complex and inter-related changes. This will encompass how a licensee has used its internal challenge function and processes to ensure that there is no detriment to safety arising from change proposals, both during transition and the end state.

Country	Article	Ref. in National Report
Spain	Article 23	Pag. 42

Question/ Comment of OIEA and others international nuclear quality assurance standards (focused on the safety and more strict), applicable to activities concerning the safety of spent fuel and radioactive waste management?

Answer The UK regulator does not set prescriptive requirements for meeting quality standards. However, the regulator recognises that ISO 9001 is the standard most commonly used for contract requirements by UK licensees. The IAEA Code and Guides 50-C/SG-Q for quality assurance are an example of the standards against which HSE judges licensee compliance against the quality assurance licence condition, LC 17. It is the responsibility of the licensee to set appropriate standards in a contract for externally supplied products or services. The regulator operates a benchmarking

process for licensee compliance with the quality assurance licence condition LC 17 so that the standard set for different types of licensee (e.g. power reactor operators, chemical plants, radwaste and decommissioning) can be maintained consistently.

Country	Article	Ref. in National Report
Spain	Article 23	Pag. 42

Question/ What is the regulatory framework for inspecting external companies?

Comment

Answer The regulator carries out a programme of inspections based on the UK nuclear site licence conditions. The responsibility for compliance with the licence conditions is with the licensee of the nuclear site, and this is where the majority of inspection is carried out. However, where there are external contracts placed by the licensee, the regulator will carry out such inspections at a contractor's works or at a contractor's work compound on the site considered necessary to ensure that the appropriate licence conditions are being complied with. Arrangements to carry out such inspections will normally be made through the licensee.

Country	Article	Ref. in National Report
Spain	Article 23	Pag. 42

Question/ How do you inspect the procedures or quality assurance system of both licensee and external companies regulating the interactions between the licensee and its external companies?

Answer The regulator site inspector carries out a programme of inspections. The site inspector will request appropriate additional support from specialist inspectors, and this will include those specialist inspectors with quality assurance specialism, to inspect the licensee's quality assurance arrangements, and those of contractors as appropriate, dependent on the safety significance of the product or service.

Country	Article	Ref. in National Report
Spain	Article 23	Pag. 42

Question/ How does your Regulatory Body maintain confidence in the way licensees control the work done by the external companies?

Answer The regulator sets standards/expectations and agrees the licensee's site licence compliance arrangements to meet all of the UK nuclear site licence conditions, including those directly related to contracts for safety significant products or

services. Annual site inspection plans are drawn up to cover all of the licence conditions over a pre-determined period, according to the activities on the licensed site. The regulator carries out inspections in accordance with the plan and will carry out additional inspections as deemed necessary. This may include enhanced team inspections, involving regulatory specialist inspectors with particular expertise, to look at projects being carried out on the site. Regulatory confidence is maintained through the programme of inspections and the flexibility to carry out additional focussed inspections when judged necessary.

Country	Article	Ref. in National Report
Spain	Article 23	Pag. 42

Question/ Comment What type of inspections does your Regulatory Body carry out to verify the effort spent by the licensee doing external companies supervision?

Answer The regulator carries out assessment of the licensee's arrangements for their external contracts and this will be supported by sample regulatory inspections of the implementation of the licensee's arrangements at the contractor's works and at the licensee's site as appropriate. This can include inspection of contracted-out design, manufacturing, assembly, test, site installation and testing, and commissioning activities, as appropriate to the safety significance of the product. These inspections will normally be related to UK nuclear site licence conditions (LCs), including LC17 for quality assurance.

Country	Article	Ref. in National Report
Spain	Article 23	Pag. 42

Question/ Comment Do you visit external companies or manufacturers sites? If not, why not?

Answer Yes.

Country	Article	Ref. in National Report
Spain	Article 23	Pag. 42

Question/ Comment Does Regulatory Body have regulatory authority over the external companies of licensees and their subcontractors?

Answer Yes, the provisions of the Health and Safety at Work etc Act 1974, places duties for safety on the suppliers or, in the case of imported equipment, the importers of equipment. This is regulated by the Health and Safety Executive (HSE).

Country	Article	Ref. in National Report
Spain	Article 23	Pag. 42

Question/ Comment For contractors located away from the nuclear power plant, in what capacity do you visit the external companies' sites?

Answer The regulator expects the licensee to have carried out an appropriate level of pre-contract assessment of the prospective contractor's arrangements, (technical, quality assurance and company financial capability) either as a document review or at the contractor's works, dependent on the safety requirements for the contract. The licensee's arrangements for contract performance monitoring, including quality assurance surveillance, will in turn be monitored by the regulator during normal site inspection activities.

If the regulator requires to inspect specific activities at the contractor's works, this may be identified as intervention points (sample inspections, hold points) on the licensee's or contractor's quality plans. However, the safety regulators have powers to inspect external companies under the provisions of Health and Safety at Work etc Act 1974.

Country	Article	Ref. in National Report
Spain	Article 23	Pag. 42

Question/ Comment What do you do to make sure that safety related recommendations by external companies are assessed and implemented, if necessary?

Answer The licensee's quality management arrangements ensure that all recommendations from consultants, suppliers and other relevant companies are assessed and implemented in an appropriate manner.

Country	Article	Ref. in National Report
Spain	Article 23	Pag. 42

Question/ Comment Which qualification and training requirements for recruiting personnel are currently applied for suppliers?

Answer Depending upon what service the supplier or contractor is carrying out, then proven knowledge and experience would be required for a particular job.

For graduates, on the whole the employers take engineers and scientists from University and add the nuclear element by training. When the employer is providing services to a Licensee company (licensed nuclear site) he must be in a position

to demonstrate that those people employed on the contract are Suitably Qualified and Experienced for the job in hand - as required by the relevant regulator.

The UK nuclear industry along with Cogent, the Sector Skills Council covering the nuclear industry, are investigating the possibility of Skills Passports which will give evidence of an individual's training, and allow skills to be transferred within the industry more easily.

Country	Article	Ref. in National Report
Hungary	Article 24	F. 25 p. 45

Question/ Comment Is there a trend in the year on year radioactive discharges from the different radioactive storage/disposal facilities?

Answer All of the discharges from the UK's nuclear site are reported annually in Radioactivity in Food and the Environment, results for the last 10 years are included on a single CD, which will be sent to the Hungarian Delegation through the IAEA. In general the total discharges/disposals to sea and atmosphere have been declining as a result of a range of improvements. These improvements include: minimisation of the creation of radioactive waste; developments in abatement technology; and closures of old plant (e.g. Magnox power station closure programme).

The Government has published its UK strategy for radioactive discharges 2001-2020. This strategy can be found at:

[www.defra.gov.uk/environment/radioactivity/government/discharges/pdf/rad\\_dischargestrat1.pdf](http://www.defra.gov.uk/environment/radioactivity/government/discharges/pdf/rad_dischargestrat1.pdf)

The UK, currently, has only one solid waste repository this is the Low Level Waste Repository, at Drigg. The discharges to sea from the LLWR, though quite variable, have declined over the last ten years (A copy of the Weekly Drigg Marine Pipeline Discharge Activity will be made available during the UK presentation).

Country	Article	Ref. in National Report
Czech Republic	Article 25	

Question/ Comment In the case of waste disposal and, is there put any basic emphasis on difference between accidents affecting just the nuclear facility area and accidents affecting the environment? The INES classification scheme seems to be a strong tool for evaluating possible events concerning disposal.

Answer The INES classification scheme is a strong tool for classifying possible events concerning disposals. In the UK the HSE is responsible for considering the impact to workers on site and to the public, of any credible accidents on the nuclear site. The environment agencies in the UK also consider the impact on the environment and the public in the neighbourhood of all disposal sites from potential accidents on the site.

Country	Article	Ref. in National Report
Czech Republic	Article 25	

Question/ Comment Which body in UK is responsible to ensure the function of National Warning Point?

Answer For an emergency at a spent fuel or radioactive waste management facility in the UK, the DTI would take responsibility for notifying other countries.

For an event involving a nuclear accident overseas, Defra operates the RIMNET monitoring system and is the nominated first point of contact in the UK.

Country	Article	Ref. in National Report
Ireland	Article 25	

Question/ Comment It is noted in Para F 37 that, in common with probably all other nuclear countries, the UK uses the INES scale for reporting accidents. What is the UK's view on the appropriateness or otherwise of this scale when used to report events that have occurred in the UK, in particular in terms of giving an indication of the relative seriousness of such events

Answer The UK was directly involved with the development of the INES scale and has actively supported operation and improvements since its introduction in 1990. The scale provides an Internationally agreed and accepted methodology for rating the safety significance of events occurring on nuclear installations.

Since 2002 all events rated at INES 2 and above have been posted on a public access website at [www-news.iaea.org](http://www-news.iaea.org)

Whilst it is the licensees's duty to rate events under the INES scale they are reported through, and scrutinised by, a National Officer provided by the Nuclear Safety Directorate of HSE. Although there is no requirement to report events rated at INES 0 (below scale, no safety significance) & 1 (anomaly), the National Officer monitors all events reported under the Nuclear Installations Act to ensure that they have been consistently rated.

Country	Article	Ref. in National Report
Bulgaria	Article 26	p. 95-98

Question/ Is the decommissioning approach going to change due to the new decommissioning policy accepted by the government Comment in September 2004?

Answer The Nuclear Decommissioning Authority has consulted on its proposed strategy for decommissioning its nuclear sites and its proposals are now approved by Ministers. NDA will be reviewing the intended end points of each site and this in turn may influence the decommissioning approach.

Country	Article	Ref. in National Report
Bulgaria	Article 26	

Question/ What steps are undertaken for collection and storage of the records containing the whole information necessary for Comment ensuring safety of decommissioning operations?

Answer Site licensees are obliged under the site licence conditions to maintain records. Site licence conditions which apply are:

- LC6 Documents records authorities
- LC25 Operational records
- LC35 Decommissioning

HSE's expectations for the records relevant to radioactive waste and decommissioning are described in its document T/AST/024 "Management of Radioactive Materials and Radioactive Waste on Nuclear Licensed Sites", which can be found on the HSE's website [www.hse.gov.uk](http://www.hse.gov.uk).

To provide further assurance, the NDA is investigating establishing a "Nuclear Archive".

Country	Article	Ref. in National Report
Czech Republic	Article 26	

Question/ Does an operator of nuclear installation have a legal duty to create financial reserves for decommissioning? If yes, from Comment what time (for instance from the start of operation)?

Answer Under UK accounting standards (FRS12) an owner of a nuclear asset must provide for the decommissioning cost at the point of commissioning. In the case of nuclear decommissioning this is principally at the point of introducing active

material, when the obligation to decommission arises.

Country	Article	Ref. in National Report
Germany	Article 26	p. 50

Question/ Comment Does the legal framework for the decommissioning of nuclear facilities allow safe enclosure as well as immediate dismantling? In case there is a restriction of the licensee to one of the aforementioned strategies: what are the reasons for such a restriction?

Answer The legal framework is non prescriptive and therefore allows for safe enclosure as well as immediate dismantling.

However, the licensee is required to consider all the relevant options for the decommissioning of a facility. These decommissioning options need to be considered in relation to all the relevant factors, such as those listed in section L2.23 of the UK submission. The licensee is then expected to substantiate the chosen decommissioning strategy in relation to these factors.

Country	Article	Ref. in National Report
Hungary	Article 26	F. p. 50

Question/ Statement of the Report:

Comment 'F-52 A nuclear licensed site cannot be delicensed until HSE is satisfied that there is no danger from ionising radiation. Decommissioning is the process to achieve this end. More detail of delicensing is at E-28 to E-31.'

Question:

Who will be the owner of the site after delicensing?

Answer A licence holder does not necessarily need to be the owner of the site. For instance, the Nuclear Decommissioning Authority owns all the BNG and Magnox Electric sites. The Licensees occupy the sites by permission of the NDA and undertake decommissioning and other activities under contract to the NDA. When a site is delicensed, the ownership of the site will generally stay the same. So, if an NDA site were delicensed, the NDA would continue to own the land. The difference would be that there would be that there would no longer be a licence holder.

Country	Article	Ref. in National Report
Hungary	Article 26	A. p. 26

Question/ Comment Who is supervising (to whom is reporting) the Nuclear Decommissioning Authority?

Answer The Nuclear Decommissioning Authority is a Non Departmental Public Body. It reports to the Department of Trade and Industry.

Country	Article	Ref. in National Report
Korea, Republic of	Article 26	F-13, F-49

Question/ Comment The report states that HSE can direct the licensee to commence decommissioning (p.50, F-49), while NDA has responsibility for decommissioning (p.41, F-13). Which organization has the real responsibility for decommissioning from shutting down to delicensing of the site? Please provide clear responsibility for ensuring safety at actual decommissioning work between the HSE and the NDA.

Answer The responsibility for ensuring that decommissioning is carried out safely lies with the licensee. Where the licensee acts as contractor to the NDA, it will undertake decommissioning activities according to the NDA's strategies and plans. In carrying out those activities the licensee must have adequate arrangements to carry out the work safely. This is a requirement of Licence Condition 35. There are powers in Licence Condition 35 for HSE to intervene, and to require the licensee to begin (or suspend) certain decommissioning activities if HSE judges that this is necessary in the interests of safety or to ensure acceptable management of radioactive waste. The NDA should ensure that the regulators requirements for decommissioning are taken into account when it sets its site decommissioning priorities.

Country	Article	Ref. in National Report
Korea, Republic of	Article 26	P.49-52

Question/ Comment What are the regulations or standards for the management of waste from decommissioning?

Answer Wastes from decommissioning are regulated in the same way as other radioactive wastes.

Country	Article	Ref. in National Report
Korea, Republic of	Article 26	p.49-52

Question/ Comment What are the criteria for decommissioning in the design stage of nuclear facilities?

Answer Facilities should be designed so that they can be safely decommissioned. Account should be taken during the planning and design stages of the need for decommissioning and waste retrieval. This should include:

- a) physical and procedural methods to prevent the spread of contamination;
- b) control of activation;
- c) design features to facilitate decommissioning and to reduce dose uptake by decommissioning workers;
- d) consideration of the implications for decommissioning when modifications to the facility are proposed;
- e) identification of reasonably practicable changes to the facility to facilitate or accelerate decommissioning.

A decommissioning plan and programme should be prepared and maintained for each nuclear facility throughout its lifecycle to demonstrate that it can be safely decommissioned. The decommissioning plan should:

- a) define the decommissioning end-state for the facility and any interim states required to achieve it; and
- b) be supported by appropriate evidence, which demonstrates that decommissioning can be undertaken safely, and that the end-state (and any interim state) can be met.

The plan should be reviewed, updated and developed at appropriate intervals.

Country	Article	Ref. in National Report
Slovakia	Article 26	

Question/ Comment Could UK provide updated info on functioning of the Nuclear Decommissioning Authority – NDA (responsibilities, organizational structure, financing)?

Answer The NDA is responsible for operating and decommissioning sites for which it has designated responsibility under the Energy Act 2004. At present the NDA has been designated responsibility for nineteen nuclear licensed sites previously operated by BNFL and UKAEA. The NDA has contracted out the operation and decommissioning of these sites to BNGSL, Magnox Electric, UKAEA and Springfields Fuels Ltd. These contracts will be subject to competition in accordance with the NDA's approved strategy.

In addition, the NDA is the agent to perform those functions assigned to it under the British Energy (BE) Restructuring Agreements. These responsibilities relate to the oversight of British Energy's planning for, and decommissioning of, its nuclear power plants and for the discharge of certain nuclear liabilities not covered under commercial contracts with a third party. Unless otherwise directed by the Government, the NDA's responsibilities solely involve these oversight functions.

The NDA is responsible for ensuring that there is an appropriately skilled workforce available to carry out decommissioning and clean up activities, to ensure that good practices are shared between contractors and to encourage innovation.

The NDA Management statement outlines the framework within which the NDA will carry out its functions including the management of assets and public funds, and accountability for its performance.

The NDA Management Board is made up of the NDA Chairman, Executive and Non Executive Directors and Chief Executive. The NDA's Executive Directors, lead a total staff that will ultimately number about 230, mainly based at the authority's Headquarters in West Cumbria.

The NDA is funded by the Government, through a combination of general Government spending and revenue from commercial activities on NDA sites. The NDA's budget for 2005-08 is around £2bn per annum. More detailed information on the NDA's expected expenditure will be contained in the NDA's Annual Plans and information on actual expenditure will be contained in the NDA's Annual Report and Accounts both of which are available, together with further information on the above topics on the NDA's website at [www.nda.gov.uk](http://www.nda.gov.uk).

	Country	Article	Ref. in National Report
	United States of America	Article 26	50
Question/ Comment	The report does not specify that records of information important to decommissioning must be collected, maintained and updated. Reference is made to situations in which authorization conditions may be broken or in the case of operating conditions, but no mention is made that such records involving incidents, spills, be kept for eventual decommissioning.		
Answer	The comment is noted. HSE's expectations for the records relevant to radioactive waste and decommissioning are described in its document T/AST/024 "Management of Radioactive Materials and Radioactive Waste on Nuclear Licensed Sites", which can be found on HSE's website <a href="http://www.hse.gov.uk">www.hse.gov.uk</a> . This includes the need to keep records of all incidents, which includes spills.		
	Country	Article	Ref. in National Report
	United States of America	Article 26	50

Question/ Comment Criteria and requirements for decommissioning seem to be focused on nuclear power plants and other significant nuclear fuel cycle facilities. The report does not identify that Article 26 would apply to smaller endeavors such as hospital, medical laboratories, radiographers, etc., where accidents and incidents may be immediately mitigated to some extent, but in which some authorization conditions related to decommissioning should still apply, as appropriate; e.g., reporting or record keeping.

Answer Safety during decommissioning of non-nuclear facilities, where radioactive substances have been used, is ensured through the same regulatory and management processes as during its operational phase. For the types of facilities referred to, special risk assessment is required under the Ionising Radiations Regulations 1999 - this will determine the level and nature of contingency planning required. This will normally be based on the operational inventory of radioactive substances, which is usually higher than during decommissioning.

Radioactive wastes arising from decommissioning require prior authorisation, unless below UK exemption levels. If new disposal routes are required e.g. for contaminated building rubble, then application must be made for a variation to disposal authorisation issued during the operational phase. The same is true for increases in disposal limits. Disposal authorisations include reporting and record keeping as standard requirements.

In summary there is no difference in the regulations or standards for the management of safety and radioactive wastes from decommissioning as from any other source.

Country	Article	Ref. in National Report
Australia	Article 27	

Question/ Comment What laws and administrative arrangements has your country put in place to address the authorised transboundary movement of spent fuel and radioactive waste under Article 27.1.(1)H of the Convention .

Answer The Transfrontier Shipment of Radioactive Waste Regulations 1993 implement Council Directive 92/3 Euratom on the supervision and control of shipments of radioactive waste between Member States and into and out of the Community. This complies with the provisions of Article 27 of the Convention as they relate to transboundary movement of radioactive waste. Spent fuel that is destined for reprocessing does not fall within the scope of the Regulations.

Country	Article	Ref. in National Report
Ireland	Article 27	

Question/ Section 1 Article 27 Trans-boundary Movement

Comment

It is noted from Para 1.4, that no procedures are in place to deal with the prevention of shipments that have not been granted authorisation. Do the UK have any information on the number and nature of unauthorised shipments or why such unauthorised shipments, if any, take place ?

Answer There are four principal situations\* where one of the Competent Authorities (CA) in the UK may become aware of a proposed shipment of radioactive waste or spent fuel that may require prior authorisation under the Transfrontier Shipment of Radioactive Waste Regulations 1993 (TFS Regs. 93), these are:

- a) export from the UK of a consignment of radioactive waste
- b) import into the UK of a consignment of radioactive waste
- c) export from the UK of a consignment of spent fuel not destined for reprocessing
- d) import into the UK of a consignment of spent fuel not destined for reprocessing

As stated in the UK's second report, if the CA becomes aware of a shipment, in any of the above categories, that does not have the required prior authorisation the CAs have powers of prohibition and prosecution and can seek an injunction from the Courts if urgent intervention is required. These actions clearly depend on awareness of the proposed shipment, but if a CA were aware of such a shipment action would be taken by the CA to halt or prevent the shipment.

We are aware of only one case in category a) in the last 5 years. This involved the export of GTLD wastes from a UK subsidiary to its parent company in the USA. The US authorities and the Environment Agency became aware of the shipment after it had been completed. Both regulatory authorities considered, or took, enforcement action.

We are not aware of any cases in categories b), c) or d) within the last five years.

The principal risk of failure to comply with the TFS Regs. 93 is ignorance of their existence and requirements – most UK companies make few, or no, transboundary movements. The CAs in the UK provide guidance to companies, on a case by case basis, in relation to proposed shipments to raise their awareness of their statutory obligations.

\*these exclude the situation where the UK is a State of Transit – this is extremely rare in the UK.

Country	Article	Ref. in National Report
Czech Republic	Article 28	

Question/ Comment At present, it seems that all the spent sources are stored. What about an option of their disposal now and/or in future?

Answer The future long-term management of sources will be considered as part of the ongoing policy reviews. This will include the arrangements for future management that have been set in place under implementation of the EU HASS Directive within the UK.

Country	Article	Ref. in National Report
Korea, Republic of	Article 28	p. 68(J)

Question/ Comment What is the radiation mensurement system to detect orphan sources or disused sealed sources in main ports, if any?

Answer Programme Cyclamen is the project to implement both fixed and mobile radiation detection systems at UK points of entry, including ports, airports and international railway stations. The 'Cyclamen' capability will screen all traffic types, including containers, airfreight, vehicles, passengers, baggage and parcels. Some such systems are already operational at a number of UK ports and airports. HM Revenue & Customs are responsible for their operation.

Country	Article	Ref. in National Report
Slovakia	Article 28	

Question/ Comment What are the financial sources and who is responsible for each step in disused sealed sources management?

Answer The Government has issued draft guidance to the Environment Agency on acceptable ways in which holders can make financial provision for the management of sources when they become disused. This can be found at:  
<http://www.defra.gov.uk/corporate/consult/hass-regs-directions/hass-eaguidance.pdf>

The holder remains responsible for the management of a source that becomes disused, until it is returned to the supplier or manufacturer, transferred to another holder or placed in a recognised installation.

Country	Article	Ref. in National Report
Bulgaria	Article 32	B-24

Question/ What is your view on the terms of the decommissioning stages of the British nuclear power reactors in the light of the Comment determined objective: “Decommissioning operations should be carried out as soon as reasonably practicable, taking all relevant factors into account”?

Answer In the the Nuclear Decommissioning Authority’s (NDA) strategy, approved by UK ministers on 31st March 2006, they announced their plan to explore further the feasibility of full decommissioning of Magnox reactor sites and site clearance in less than 25 years, subject to long term waste management arrangements being available. This is fully in accord with the objective of decommissioning operations being carried out as soon as reasonably practicable, taking all relevant factors into account.

Country	Article	Ref. in National Report
Bulgaria	Article 32	B-31, L.2.29

Question/ Are any specific requirements established regarding the minimum financial resources that have to be secured upon Comment termination of power reactors operation for decommissioning? What criteria are applied to verify that the operators took the steps necessary to ensure that their decommissioning work is adequately funded”?

Answer In November 2001, the UK Government announced that it intended to accept direct financial responsibility for all of the liabilities that were then managed by British Nuclear Fuels Ltd (BNFL), except those covered by commercial contracts for the reprocessing and storage of spent fuel a Sellafield. This includes liabilities associated with the power reactors operated by Magnox Electric who were a wholly owned subsidiary of BNFL. This announcement recognised that the provisions made by BNFL were inadequate to cover its liabilities.

The Nuclear Decommissioning Authority (NDA) was established by the UK Government under the Energy Act 2004 to take responsibility for the safe, secure, cost-effective and environmentally responsible decommissioning and clean-up of the UK’s civil public sector nuclear sites including public sector power reactors. The NDA is funded by the UK Government through a combination of direct Government funding, determined through the UK Government’s Comprehensive Spending Review, and commercial revenue generated by the four remaining operational Magnox power stations, the reprocessing and storage of spent fuel at Sellafield and nuclear fuel manufacture at Sellafield and Springfields. Subject to state aid clearance, historic funds accumulated by BNFL and Magnox electric to fund the discharge of their former liabilities have also been made over to the UK Government.

The NDA publishes an annual estimate of the total cost of ongoing operations, decommissioning and clean-up for all the

sites for which it is responsible. Whilst it is expected that this cost may rise initially, a key part of the NDA's mission is to bring down the total cost through effective monitoring of its site operators' performance, introducing competition for site management and encouraging innovation. Safety, security and protection of the environment will remain paramount. The NDA's objectives are published in its Strategy and Annual Plans, both of which must be approved by the Secretary of State for Trade and Industry, and its performance is published in its Annual Report and Accounts, which must be laid before the UK Parliament.

The NDA is not responsible for the decommissioning and clean-up of British Energy (BE) sites or for the discharge of its uncontracted liabilities, which are managed in the private sector. Following its restructuring in 2003, BE is contractually obliged to pay into a segregated fund an annual fixed charge plus a significant proportion of its free cash flow (which is indirectly linked to electricity market prices). The fund also benefits from a "dowry" of past contributions made by BE since 1996. In the event that this proves insufficient, the shortfall will be made up by the UK Government. The fund and BE's contributions are monitored by the DTI, which appoints 3 out of its 5 trustees. Given the taxpayer's potential involvement, the NDA is charged with ensuring value for money as the BE plans for and carries out the decommissioning and clean-up of its sites in a similar manner to the civil public sector nuclear sites. This funding covers the full scope of decommissioning, with the exception of BE staff redundancy payments.

	Country	Article	Ref. in National Report
	Czech Republic	Article 32	

Question/ Comment Can you give some information about requirements for siting of landfill sites (for instance geological, hydrological or hydrogeological) where VLLW can be disposed of?

Answer VLLW is, by its nature, of low radiological risk to people and the environment. Established UK practice is to send it to landfill sites for non-radioactive waste. Thus, the siting requirements are determined by the radioactive waste's other properties (i.e. ranging from whether it is inert to whether it is chemically hazardous).

The establishment of a new landfill disposal site is subject to approval by the planning authority, and there will be consultation with the environmental regulator at that point. The operation of the facility is subject to licensing by the environmental regulator. The environmental regulator will assess the geological, hydrological and hydrogeological aspects before a licence is granted to a new landfill site. The assessment will be principally from the viewpoint of prevention of chemical and pathogen contamination of ground water by leachates from the landfill, as well as the

evolution of methane and other gases.

The UK has kept the radiological acceptability of this disposal route under review. During the 1990s, generic assessments by the UK's National Radiological Protection Board confirmed that it was of low radiological impact, for the volumes of VLLW and the landfill techniques involved. The VLLW disposal route to landfill is currently used mainly by non-nuclear undertakings (e.g. hospitals, universities, etc).

This route of disposal has existed in the UK for more than 30 years, and the risk and public exposure associated with this disposal practice have been reviewed at roughly 10-year intervals; the last occasion was 1995. The UK has commissioned a fresh review that is due to report later this year (2006). This review will update the earlier assessments and extend them specifically to provide further assurances about VLLW disposals from the few nuclear sites whose authorisations include this disposal route.

	Country	Article	Ref. in National Report
	France	Article 32	Section A Page 4

Question/ Comment National Waste Management Strategy for higher active waste is currently in force, especially through the creation of CoRWM, even if the results of studies are not yet known. Are there new structures planned for performing a similar work on LLW ?

Answer The issues in respect of higher activity and low-level waste are essentially different. There is no agreed UK solution for the long-term management of higher activity waste. CoRWM was established to help identify that solution. In contrast there are a number of solutions available for the long-term management of low-level waste, and the issue there is to decide how these can best be used to manage the increase in future arisings of LLW, most notably from decommissioning and clean-up activities. LLW management issues were discussed at two independently facilitated national stakeholder workshops held during the course of 2005, which aided the preparation of a UK Government consultation document, including a statement of proposed future policy, published on 28 February 2006. The LLW management policy statement will be finalised in light of the outcome of that consultation, which is due to close at the end of May 2006.

	Country	Article	Ref. in National Report
	France	Article 32	Section B Page 7

Question/ Information should be provided on exemption and clearance levels, and associated procedures.

Comment

Answer Information on exemption and clearance levels and associated procedures can be found in the Exemption Orders made under the Radioactive Substances Act 1993, at the following weblink:

<http://www.defra.gov.uk/environment/radioactivity/government/legislation/exemption.htm>

Country	Article	Ref. in National Report
France	Article 32	Section B Page 9

Question/ Are special disposal facilities for VLLW planned , ranked in the disposal classification between sites for ordinary refuse  
Comment and LLW disposal?

Answer No. VLLW is, by its nature, of low radiological risk to people and the environment. Established UK practice is to send it to landfill sites for non-radioactive waste.

Country	Article	Ref. in National Report
France	Article 32	Section K Page 69 K2

Question/ Are the operation experience feedback and new regulations considered as a basis for the mentioned safety reviews?  
Comment

Answer The periodic safety review (PSR) includes a review of operating experience to see whether it is consistent with safety case assumptions.

A major part of the PSR is a review against modern standards, which reviews

- changes in relevant safety standards,
- analytical methodologies (including possible changes in the circumstances or ranges for which they have been validated), and
- inspection techniques.

These are then applied as appropriate, evaluated against any deficiencies, and reasonably practicable improvements implemented to enhance safety.

Country	Article	Ref. in National Report
Germany	Article 32	p. 6

Question/ Comment The report says that spent fuel from NPPs is generally to be reprocessed. The long-term storage of the separated plutonium is probably not the optimum solution for safety and security reasons. Are there any plans to minimise the storage time for this plutonium by adequate management measures?

Answer UK civil plutonium is stored safely in secure conditions. The future storage or use of the plutonium depends on Government policy. NDA, as part of its strategy, is studying future options to help inform Government policy.

Country	Article	Ref. in National Report
Germany	Article 32	p. 11 and 41

Question/ Comment The report says that the Government expects all operators to take the steps necessary to ensure that their decommissioning work is adequately funded. Are there any legal powers to enforce this expectation and to ensure that the funding will be adequate and available in time?

Answer Under UK accounting standards (FRS12) an owner of a nuclear asset must provide for the decommissioning cost at the point of commissioning. In the case of nuclear decommissioning this is principally at the point of introducing active material, when the obligation to decommission arises.

Country	Article	Ref. in National Report
Hungary	Article 32	B-39. p. 12

Question/ Comment What is the capacity of the Drigg facility? Is there an upper limit of the total activity in the repository?

Answer The Low Level Waste Repository (LLWR) near Drigg was originally based on disposal in trenches (trenches 1-7), but this method of disposal has been superseded by the disposal of waste in grouted ISO transport containers within a concrete vault (vault 8).

The historic disposals in trenches 1 to 7 amount to a total volume of approximately 800,000 cubic meters, while the capacity of the current Vault 8 amounts to approximately 200,000 cubic meters.

There is currently no officially recognised upper limit of total activity in the repository, but activity is limited on an annual basis for certain groups of radionuclides according to the Disposal Authorisation issued by the Environment Agency. These limits are based upon a 1988 Assessment by the National Radiation Protection Board (now part of the Health Protection Agency) which assumed that the site would operate for a further 30 years.

The consented area at the LLWR near Drigg also has the capacity for the development of future disposal vaults with an estimated total capacity of around 750,000 cubic meters. The Environment Agency will not authorise disposals in any proposed new vault until the Local Planning Authority has granted planning permission and the site operator has provided a detailed risk management study to demonstrate that the potential future impacts of the site are minimised.

Once the site operator has provided a detailed risk management study the Environment Agency will review the remaining capacity of the LLWR, and publish its findings.

	Country	Article	Ref. in National Report
	Ireland	Article 32	

Question/ Comment Para. B.48 refers to the programme for vitrifying HLW. Can UK confirm that the planned reduction of HLW in storage awaiting vitrification is being met and comment whether the current suspension of Thorp operations has impacted on the quantity of HLW in storage.

Answer The Sellafield site operators (British Nuclear Group Sellafield Ltd.) provide HSE with monthly statements accounting for the HLW stocks held and the number of vitrified product containers made. These statements, supported by regular HSE inspections at the site, confirm that the planned reduction of HLW in storage awaiting vitrification, as defined by Specification 343, continues to be met. The recent suspension of operations at THORP has meant that HLW stocks at Sellafield are currently (February 2006) at their lowest levels since Specification 343 was issued.

	Country	Article	Ref. in National Report
	Japan	Article 32	p.11, B-34

Question/ Comment In the Paragraph B-34, it is said that “Any new facility has to be designed and built so as to minimize decommissioning and associated waste management operations.”  
Could you show us some examples if this policy has already been implemented? If there is no such example yet, please explain with some examples of the ways of application.

Answer Facilities should be designed so that they can be safely decommissioned. Account should be taken during the planning and design stages of the need for decommissioning and waste retrieval. This should include:

- a) physical and procedural methods to prevent the spread of contamination;

- b) control of activation;
- c) design features to facilitate decommissioning and to reduce dose uptake by decommissioning workers;
- d) consideration of the implications for decommissioning when modifications to the facility are proposed;
- e) identification of reasonably practicable changes to the facility to facilitate or accelerate decommissioning.

A decommissioning plan and programme should be prepared and maintained for each nuclear facility throughout its lifecycle to demonstrate that it can be safely decommissioned. The decommissioning plan should:

- a) define the decommissioning end-state for the facility and any interim states required to achieve it; and
- b) be supported by appropriate evidence, which demonstrates that decommissioning can be undertaken safely, and that the end-state (and any interim state) can be met.

The plan should be reviewed, updated and developed at appropriate intervals.

Country	Article	Ref. in National Report
Japan	Article 32	p.12, B-36

Question/ In the Paragraph B-36, it is said that "VLLW covers wastes with very low concentrations of radioactivity. - - - It may be safely managed by various means, such as disposal with domestic refuse - - -"

Comment To which classification of IAEA Standards (111-G-1.1) does this VLLW correspond? LILW or Exempt Waste? Do wastes in this classification(VLLW) include wastes which are generated during decommissioning of Nuclear Power Plants?

Answer VLLW is a sub set of Low Level Waste and therefore in terms of the IAEA classification is LILW. Technically it could include wastes generated during decommissioning but this is not encouraged.

Country	Article	Ref. in National Report
Japan	Article 32	p.13 B44, B45; p.5

Question/ It is written that NIREX was taken into joint Defra/DTI ownership from 1 April 2005.

Comment Is the present NIREX one of the regulatory side gov.-owned and controlled company?

Do they have the role of developing the standards for the conditioning and packaging of radioactive waste?

What is the character, function, role and responsibility of NIREX?

Answer Nirex is jointly owned by Defra and DTI. It receives the majority of its funding through a contractual arrangement with the NDA, to provide research and advisory services. Such advice may also be provided to other Government bodies. Nirex also advises waste producers on waste packaging and transport issues.

Nirex are not a regulator, they advise waste producers on packaging according to their own standards and specification, established in line with their own geological disposal concept. These standards and specifications are compatible with the other long-term waste management options short-listed for consideration by the Committee on Radioactive Waste Management (CoRWM).

Nirex also continue to compile and publish, with Defra, the UK Radioactive Waste Inventory.

Further information on Nirex can be found on it's website [www.nirex.co.uk](http://www.nirex.co.uk)

Country	Article	Ref. in National Report
Japan	Article 32	p.80, L2.7

Question/ In the Paragraph L.2.7, it is said that "LLW can only be disposed of currently at one site, NDA's site at Drigg in the northwest of England".

Comment 1) Is uranium waste categorised as LLW, or as other ?

2) Are there any experiences at Drigg site to dispose of uranium wastes generated from nuclear fuel processing facilities or enrichment facilities?

3) If any, how much was the amount of the uranium wastes?

Answer 1) Uranium resulting from reprocessing is regarded as an asset rather than a waste. However, reprocessing and other fuel cycle activities result in the generation of uranium bearing wastes.

Uranium-bearing waste is categorised as Low Level Waste if it meets the UK's definition of LLW - i.e. the activity of the waste does not exceed 4 GBq/t alpha and 12 GBq/t beta/gamma.

Such waste can be disposed to the Low Level Waste Repository at Drigg (LLWR) providing it meets the sites Conditions for Acceptance (CFA). These address a wide range of issues which may affect the suitability of waste for disposal at the site but in of particular relevance to the disposal of uranium bearing wastes are limits on the fissile content of waste and limits on the levels of U-235 in waste consignments. Waste streams exceeding these limits will only be accepted following a specific assessment to demonstrate the suitability for the site for disposing of that waste stream.

2) Wastes of significant uranic content were disposed of to the LLWR trenches in the early days of operations. These wastes were predominantly from Springfields fuel manufacturing operations. Some uranic residues from the Capenhurst fuel enrichment process (generally depleted tailings) have, historically, been disposed of to the LLWR.

3) Estimated disposals of uranium to the LLWR trenches equates to around 1,000 tonnes of uranium contaminated material. Total disposals of uranium bearing wastes to the current operational vault, and any future vaults, are expected to be around two orders of magnitude smaller than for the trenches.

Country	Article	Ref. in National Report
Japan	Article 32	p.12, L24

Question/ In Para.B-37, it is said “EA is reviewing the Drigg’s disposal authorization.”

Comment Please indicate the history and the future direction of the review.

Answer The Environment Agency’s (EA) review of the British Nuclear Group (Sellafield) Limited (BNGSL) authorisation for waste disposal at the low-level waste repository (LLWR) at Drigg was carried out in stages:

1. EA published a Process & Considerations Document in November 2004, describing how it would carry out the review, and what information it required from BNGSL;
2. BNGSL provided a submission of data relating to the LLWR in March 2005;
3. EA published its draft proposals for the future regulation of the site, in June 2005, and then consulted the general public and interested parties;

4. EA published its Proposed Decision on the review, including new limits and conditions in the authorisation, in February 2006;
5. EA sent its proposed decision to the Secretaries of State for Environment and Health; and
6. subject to any direction by the Secretaries of State, EA intends to issue the new Authorisation in April 2006.

Taking into account the possible effects of coastal erosion in the future the EA has amended the conditions of the authorisation regarding solid waste disposal on the site. BNGSL can continue to dispose of low-level solid radioactive waste in the current disposal area.

The EA will not authorise disposals in a proposed new vault until BNGSL has provided a detailed risk management study to demonstrate that the potential future impacts from coastal erosion are minimised. The report of this study is required within two years from the date of the new authorisation. The EA will then review the remaining capacity of the LLWR, and publish its findings. BNGSL will not be allowed to construct the final cap over the older disposal areas at the site until the EA has received this study.

The authorisation also includes updated conditions regarding discharge of radioactivity to atmosphere, discharge of contaminated water via a pipeline to the Irish Sea, and transfer of solid waste to the Sellafield site.

Copies of the Environment Agency's Decision Document, outlining the conditions of BNGSL's new authorisation and explaining how the Agency arrived at its conclusions, are available on their website [www.environment-agency.gov.uk](http://www.environment-agency.gov.uk)

Country	Article	Ref. in National Report
Japan	Article 32	p.12,Para.B-40

Question/ In the para.B-40, it is said "the Government instigated a review of LLW policy."

Comment In the para.L.2.7, it is said "Future policy of for LLW disposal is the subject of a UK Government consultation."  
Please indicate the future direction of LLW policy.

Answer There are a number of solutions available for the long-term management of low-level waste, and the issue is to decided how these can best be used to manage the increase in future arisings of LLW, most notably from decommissioning and

clean-up activities. LLW management issues were discussed at two independently facilitated national stakeholder workshops held during the course of 2005, which aided the preparation of a UK Government consultation document, including a statement of proposed future policy, published on 28 February 2006. The LLW management policy statement will be finalised in light of the outcome of that consultation, which is due to close at the end of May 2006.

Country	Article	Ref. in National Report
Korea, Republic of	Article 32	P.99(Table L2.1)

Question/ Comment What is the reason that the volume of the LLW has been increased especially after conditioning for volume reduction?

Answer A significant proportion of the LLW stored is sludge and resins that increase in volume when encapsulated in cement.

Country	Article	Ref. in National Report
Korea, Republic of	Article 32	P.99(Table L2.2)

Question/ Comment What is the difference between the data of HLW (935§©) shown in table L 2.2 and the data of HLW (955§©) shown in table L 2.1?

Answer Apologies, both numbers should read 935. The 955 is in error.

Country	Article	Ref. in National Report
Luxembourg	Article 32	page 12, sectionB-36

Question/ Comment According to the categorisation of radioactive waste as described in Table B1, single items containing less than 40 kBq, including alpha emitters, are classified as VLLW. Typical smoke detectors containing Am-241 range around 37 kBq, and could thus be disposed with domestic refuse directly at landfill sites. Could you please explain the practices with disused radioactive smoke detectors in the UK considering larger amounts of single items?

Answer Individual disposal authorisation is not required for certain items up to 4Mbbq where the detector and the method of disposal is in accordance with The Radioactive Substances (Smoke Detectors) Exemption Order 1980. Larger quantities that do not meet the Exemption Order requirements need to be disposed of under an Authorisation issued under Radioactive Substances Act 1993.

Country	Article	Ref. in National Report
Netherlands	Article 32	B-16, K-5

Question/ K-5: It is considered vitally important to find a solution that is both scientifically and technically feasible and which has the

Comment support of the public. B-16: (...) they do not create waste management problems which cannot be resolved using current techniques or techniques which could be derived from current lines of development; Question: This is exactly the reason why most green parties want to close all NPP's. Who decides whether a waste management problem can be resolved or not? Can you give an example of such a decision?

Answer All decisions on radioactive waste management policy are for the UK Government and devolved administration Ministers on the basis of the information available to them. Decisions on the UK discharges strategy and decommissioning policy are relatively recent examples of the decisions that have been taken, as was the decision to set up the Nuclear Decommissioning Authority to decommission and clean up the UK's older publicly owned civil nuclear sites.

Country	Article	Ref. in National Report
Spain	Article 32	Paragraph B-38

Question/ The report indicates that LLW were disposed of in the past in Drigg repository and at Dounreay site and currently the Comment latter is full.

The report also indicates in paragraph B-39 that 5,900m<sup>3</sup> of LLW is being stored at Dounreay pending a decision of future disposal strategy. Paragraph L.27 points out that future policy for VLLW and LLW disposal is the subject of a UK Government consultation due to report in 2006.

What is the administrative situation of Dounreay? Has the licensee asked for closure authorisation?

Answer The environmental regulator, the Scottish Environment Protection Agency (SEPA), ensures that the necessary controls to minimise the environmental effects of the facility at Dounreay remain in place. Authorisation to close the facility is not made as such; rather, SEPA will have to be satisfied that a suitable post-closure safety case can be made. Only then can the operator remove institutional controls over the facility. No such decision has been taken.

Country	Article	Ref. in National Report
Ukraine	Article 32	A, A-14, page 3

Question/ What contaminated radioactive ground is discussed in the text (item GH-12 which is referred to, has no explanations)?  
Comment

Answer Potentially any radioactive land where lasting exposure to human beings is resulting from the after effects of nuclear accidents or past practices or work activities.

Country	Article	Ref. in National Report
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Ukraine

Article 32

Â, 32.1, pages 7-9

Question/ Comment In what way small amounts of very low-level waste (VLLW) are disposed in dumps of domestic wastes? What organisation issues a permit for disposal, on the basis of what documents and according to what procedures the permit is granted (or an appropriate decision is made by the waste producer only)?

Answer Disposal of very low-level radioactive waste by co-disposal with inactive domestic refuse to landfill sites is permitted with the prior authorisation from the environmental regulator (e.g. the Environment Agency for England and Wales). The holder of the VLLW must apply in writing using a published application form, at least 4 months before the first waste is to be disposed of. The application form RSA 3 can be found at: <http://publications.environment-agency.gov.uk/pdf/PMHO0602BKHO-e-e.pdf>

If it is agreed that an authorisation should be granted it will be issued as a certificate including standard limits and conditions. Typically the limits are:

“Waste in the form of a solid, together with refuse which is not radioactive waste, in which at the time of removal from the premises:

- i. There are no alpha emitting radionuclides;
- ii. The sum total of kilobecquerels of all other radionuclides in any 0.1 cubic metres of the whole mass of radioactive waste and refuse does not exceed 400; and
- iii. The sum total of kilobecquerels of all other radionuclides in any one item of waste does not exceed 40;”

This route of disposal has existed in the UK for more than 30 years and the risk and public exposure associated with this disposal practice have been reviewed at roughly 10-year intervals; the last occasion was 1995. The UK has commissioned a fresh review that is due to report later this year (2006).

Any breach of the limits or conditions in the certificate of authorisation is a criminal offence in the UK.

Country  
Ukraine

Article  
Article 32

Ref. in National Report  
D, page 16

Question/ Why there are no data on waste from uranium mining and milling?

## Comment

Answer No uranium mining and milling takes place in the UK.

Country	Article	Ref. in National Report
Ukraine	Article 32	L, L.1.25, page 76

Question/ Comment How radioactive characteristics (radionuclide content and activity) of vitrified radwaste from spent fuel processing are identified: by direct measurements or calculations?

Answer Detailed analysis of samples of Highly Active Liquor (HAL) is undertaken to quantify the radionuclide and activity content. Using this and the quantity of HAL incorporated in each vitrified residue package, the overall composition can be calculated.

Country	Article	Ref. in National Report
United States of America	Article 32	4

Question/ Comment The UK has established a Committee on Radioactive Waste Management (CoRWM) to provide recommendations on how to best manage HLW. The CoRWM Phase 2 ended in 2005 and provided a short list of options to be carried forward to detailed assessment. Please describe these options in the UK presentation at the Review Meeting. Also, please describe the outcomes of the public meetings held between April and July 2005.

Answer The options that CoRWM is carrying forward for detailed assessment are:

- long term interim storage;
- geological disposal;
- phased geological disposal (with a period of retrievability built in);
- near surface disposal of decommissioning wastes (which are relatively short lived).

Within each of these options, various sub-options are being considered. For storage both centralised and dispersed, and above and below ground, storage facilities are being considered. For geological disposal, consideration is being given to the option of deep borehole solutions for some wastes. For the near surface disposal of decommissioning wastes, surface engineered vaults, intermediate depth facilities and reactor mounding are being considered.

A thumbnail description of the CoRWM short-listed options is given in CoRWM Document 1421 available on their website

– [www.corm.org.uk](http://www.corm.org.uk).

An overview of the outputs from CoRWM’s second round of public and stakeholder engagement, known as PSE2, is given in CoRWM Document 1186 available on the CoRWM website-[corwm.org.uk](http://corwm.org.uk). The findings from this round of public and stakeholder engagement were fed into the final decision on the short-list of options to be carried forward to detailed assessment and the nature of that assessment.

Country	Article	Ref. in National Report
United States of America	Article 32	4

Question/ Comment Are international efforts in seeking transparency and public participation being used in the CoRWM process? If so, please describe at the Review Meeting.

Answer CoRWM draws on international experience in seeking transparency and public participation via visits (eg Sweden, Finland, Belgium, Canada), meetings and reading. It uses what works or is appropriate to its process eg meeting in public, routine disclosure and publication of its papers, and use of a wide range of public and stakeholder engagement techniques. Such public and stakeholder engagement, coupled with access to the best available science, is at the heart of its option assessment process, as opposed to an afterthought. The question itself is not clear which “international efforts” are being referred to. But the CoRWM process is tailored to UK requirements and is itself considered to be ground-breaking in the way it addresses the issues of transparency and public participation.

Country	Article	Ref. in National Report
United States of America	Article 32	iv

Question/ Comment The United Kingdom’s report nicely summarizes progress on items important to safety. The introductory section of the report refers to a new 3-year program for disposal of surplus sealed sources. Please provide more information on how the U.K. plans to dispose of these sources.

Answer Holders of surplus sealed sources are encouraged to recycle these where possible. Where sources need to be disposed of, those meeting the criteria for Low Level Waste can normally be disposed of to the Low Level Waste Repository at Drigg. Higher activity sources are currently placed in storage at Sellafield and will be managed in future as Intermediate Level Waste.