HSE

Health and Safety Executive

Nuclear *Newsletter*

The Health and Safety Executive's (HSE's) Nuclear Directorate (ND) is comprised of HM Nuclear Installations Inspectorate (NII), the Office for Civil Nuclear Security (OCNS) and the UK Safeguards Office.

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Contents

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Preface

This newsletter is normally based on the Chief Inspector's report to each meeting of HSE's Nuclear Safety Advisory Committee (NuSAC). NuSAC reached the end of its period of office in October 2008. The HSE Board reviewed its advisory committee structure in light of the HSE/C merger and decided to defer any decision on future arrangements for providing independent technical advice on nuclear safety, pending various reviews. Any such decision will need to take account of the arrangements, yet to be finalised, to implement the Stone review of nuclear regulatory arrangements.

In this context, the Chief Inspector's report for NuSAC covering the period June–September 2008 was not finalised, but given the interest in its usual contents it has been decided to finalise it and use as a basis for this newsletter. We are seeking to make information on the work of HSE's Nuclear Directorate more accessible for the non-technical reader as part of our commitment to greater transparency, so the format and style of this newsletter may well change in the future.

The high level of activity has continued and in the operations area we continue to address issues arising from ageing plant and ensuring the safe decommissioning of shut-down plant. Restructuring of the nuclear industry also presents challenges in assessing competence of new licensees and ensuring that safety is maintained during transition phases.

We have started Stage 3 of the Generic Design Assessment of potential new reactors but progress continues to be determined by our resource considerations.

General issues

Chief Inspector's site visits

HM Chief Inspector for Nuclear Installations (HMCI), the Director of HSE's ND, continued with his programme of site visits. In the period covered by this newsletter, Dr Weightman visited Sizewell B power station on 27 June, Heysham I and Heysham II power stations on 9 July, and Sellafield on 2 September 2008.

Nuclear Decommissioning Authority (NDA)

Discussions have taken place with NDA and a range of other stakeholders with the aim of improving our interactions. This should reduce the number of meetings and improve their focus and coverage. Included within those discussions was the subject of formal Memoranda of Understanding (MoUs). The one between HSE and NDA will need to be reviewed to reflect NDA responsibilities under the Health and Safety at Work etc Act 1974 for the sites that it owns. Discussions also took place on funding issues, and the prioritisation methods used by NDA and others. This will help us to accommodate the national priorities while ensuring adequate compliance with individual Site Licence requirements.

ND strategic approach to leadership and management for safety

Work has continued on developing our regulatory strategy for interventions with licensees on leadership, management for safety and safety culture. One of the objectives of the strategy is to integrate our oversight of these factors into the way we work and not to rely solely on specific, targeted inspections.

Safety Performance Indicators (SPIs)

The Safety Performance Indicators project is an initiative being run jointly between NII and the UK nuclear industry.

Using guidance and processes developed by the International Atomic Energy Agency for power reactors, the SPI project has established a framework within which licensees can measure and judge their nuclear safety performance with oversight by NII. The framework consists of activities and controls that are likely to be common to the safe operation of all UK nuclear facilities but at the same time allows the information collected by licensees to match local circumstances and practices.

The project has been running for nearly four years and has now reached the stage, under the auspices of a Steering Group consisting of representatives of NII, the Defence Nuclear Safety Regulator and the UK nuclear licensees, where it will soon be possible to provide and process validated data to populate the SPI framework.

Current intentions are to implement the new system from April 2009.

Nuclear research

The 2008/09 programme is being commissioned to plan by ND and the nuclear licensees. The programme covers two main parts: operating civil power reactors, and nuclear plant decommissioning and radioactive waste management. The civil power reactors include the four remaining operating Magnox reactors, the advanced gas-cooled reactors (AGRs) and the pressurised water reactor (PWR), Sizewell B. With the Magnox plant ceasing operation soon, we have agreed that no new Magnox-related safety issues will be identified and no new research is expected. For AGR technology the main purpose of the research is to maintain essential capability. However, with maturity some parts of the reactor structure and many metallic components have aged and have given rise to significant plant safety issues. This is reflected in the high level of research expenditure British Energy is proposing in areas such as plant chemistry, graphite core and the ageing of steel components. Our research focuses on the development of new water chemists that are in short supply and this work is coming to a successful conclusion. We have joined some additional Nuclear Energy Agency international projects in order to provide access to research data which will benefit existing and new reactors.

The second part of the 2008/09 programme covers all nuclear sites where plant is being decommissioned and radioactive waste is treated, managed and stored. The main focus of the programme is on the Magnox, Sellafield and Dounreay sites. We identify key areas and topics for research through licensee-focused strategies. The site licence companies have identified the necessary safety research and they have informed ND that the research is being progressed according to plan.

Staffing

HSE has run two recruitment campaigns for nuclear inspectors this year and a total of 18 candidates have been successful so far (October 2008). At the beginning of October 2008, nine are in post and we have start dates for the remainder. A third campaign was launched at the end of September and we are also in the process of appointing search consultants to support our recruitment activity. Such levels of recruitment will have to continue in future years, given the age profile of NII and the forward work programme.

Skills passport and nuclear industry training framework

The development of a nuclear industry training framework by the National Skills Academy Nuclear (NSAN) has become a linchpin in providing the nuclear industry with a sustainable approach to meeting the nuclear skills shortage. NSAN, in co-operation with the Sector Skills Council, Cogent, has been working with the nuclear licensees, nuclear companies and trade unions across civil and defence programmes to establish skills needs and how a training framework should be progressed effectively. NSAN is establishing training centres across three regions – north-west, south-west and south-east – and is working with training providers to deliver courses that the industry needs. The next stage will be to ensure that this training is standardised and properly accredited.

The recording of people's training achievements is seen as an important element of this framework. Out of discussions with industry NSAN decided to develop a 'passport' scheme similar in nature to that employed in the offshore oil and gas and construction industries. Currently, an IT-based nuclear industry standard passport scheme is being piloted in a nuclear licensee before being rolled out across the rest of the industry. The scheme will record an individual's training achievements in a high integrity transferable record.

We have engaged with the Department for Business, Enterprise and Regulatory Reform (BERR), Cogent and more recently NSAN in taking forward the nuclear skills agenda and regularly provide advice through industry advisory groups. We have initiated discussions with NSAN regarding the development of National Occupational Standards for nuclear regulation. The currently proposed passport system has been considered from both a safety and security perspective. We have made it clear that the scheme cannot replace requirements in Licence Condition 12 (LC12) for a licensee to demonstrate that its workers are Duly Authorised Persons (DAP) and Suitably Qualified and Experienced Persons (SQEP) but accept that the scheme can help a licensee demonstrate compliance with LC12. Similarly, through discussions with OCNS (Division 5 of ND), it has been clarified that the passport cannot be employed as a means of gaining access to a nuclear licensed site. Currently OCNS is in discussions with NSAN regarding the security of personal data of site workers in this IT-based framework.

Communication and stakeholder engagement

The Regulatory Nuclear Interface Protocol (RNIP) – the agreement between nuclear licensees/dutyholders which are part of the Safety Directors' Forum (SDF), the Defence Nuclear Safety Regulator (DNSR) and HSE's ND – was launched in ND during June 2008, following sign-up by relevant top managers at the end of April, as reported in the previous newsletter. The protocol is designed to achieve more effective, efficient and strategic regulation and the first strategic liaison meeting with SDF and DNSR under these new arrangements will be in October. Work is underway to review the effectiveness of the protocol at that meeting.

The European Union's (EU's) High Level Group on Nuclear Safety and Waste Management (see 'International' section) has a sub-group that is looking at improving the transparency of nuclear regulatory matters. The first meeting was held in Dublin on 9 June 2008. ND is participating in this group which brings continuity with a related project on transparency, under the auspices of the Organisation for Economic Co-operation and Development's Committee on Nuclear Regulatory Activities. The working group is also supporting development of a website to increase European citizens' access to information on nuclear regulation and taking forward reviews of the EU and International legal framework and of international best practice – leading to the development of guidance for national regulators.

During the period covered by this newsletter, we have participated in two EU framework projects' 'focus' groups: ARGONA (Arenas for Risk Governance) and COWAM (Community in Waste Management) in Practice. These are looking at aspects of risk governance, risk communication strategies and implementation of good practices in terms of community involvement. Although adopting different methodologies, both focus on radioactive waste or disposal issues and bring together selected local and national stakeholders.

We hosted NDA's Engagement Liaison Group in our London office on 16 July 2008.This group brings together representatives from national organisations, which undertake national stakeholder engagement processes of various types in the UK nuclear sector. The aim is to enable stakeholder engagement efforts to be better co-ordinated, by sharing learning and event calendars.

The seventh edition of the nuclear e-Bulletin was issued in July 2008. This service (available via HSE's website) continues to attract new registrants with well over 2500 people being registered. A supplementary e-Bulletin providing information on the Technical Assessment Guides was issued in August.

Operational issues

Operating power reactors

Dungeness B

Dungeness B continues to experience problems with the fuel route. While crimping of fuel plug units on irradiated fuel has commenced, it is taking longer than expected to process each unit. Reactor 21 started up in early June following permission for a small increase in fuel irradiation limits. It subsequently shut down for refuelling on 7 July and has not started up since. Reactor 22 shut down for its statutory outage on 25 June 2008. This outage has been extended due to the fuel route difficulties and the current date it is forecast to return to service is early December.

We issued three licence instruments during the period:

- Licence Instrument 519 approving an amendment to the nuclear safety rules following a small increase in the fuel irradiation limit;
- Licence Instrument 520 approving a new emergency plan following the withdrawal of support from Dungeness 'A' for carrying out the off-site survey function; and
- Licence Instrument 521 agreeing to the commencement of crimping of fuel plug unit neutron scatter plugs.

Anticipated licence instruments to permission the replacement data processing system were postponed due to the continuing technical and contractual problems being encountered on the project.

There were no enforcement notices issued during the period, neither were there any significant events at this site.

Hartlepool

Both reactors at Hartlepool are shut down following the discovery last year of degraded pre-stressing wire windings on a number of boiler closure units (BCUs), as described in previous reports. We continue to give close scrutiny to the licensee's recovery project. We will require satisfactory Category 1 safety cases before the return to service of either reactor. Specific regulatory holds are in place for our review of relevant stage submissions.

There is a potential shortfall in the Hartlepool Turbine Disintegration Safety Case. This shortfall, regarding the amount of turbine lubrication oil that may be released during a turbine disintegration event, will need to be resolved before return to service of either reactor.

We issued two licence instruments during the period:

- Licence Instrument 527 gave our Agreement to the design safety principles and functional specification for the pre-stress lock-in and the functional specifications for the associated external thermal shield and environmental control system, in support of the BCU safety case Paper of Principle.
- Licence Instrument 526 gave our Agreement to an extension to the safety case for reactivity effects of boiler tube failure faults.

Two International Nuclear Event Scale (INES) events were reported to us during the period:

- An INES 1 event occurred on 3 July 2008 involving the failure of a ventilation stack monitor. Investigation has revealed that the monitor had not been maintained in accordance with the maintenance schedule. The Environment Agency is leading an investigation.
- An INES 1 event occurred on 20 June 2008 involving a high-pressure backup cooling water pump, which had not completed the maintenance schedule required test when it was returned to service from an extended outage. We are investigating this event.

Heysham 1

Similar to that reported above for Hartlepool, both reactors at Heysham 1 are shut down following the discovery last year of degraded pre-stressing wire windings on a number of BCUs. We continue to give close scrutiny to the licensee's recovery project. We will require satisfactory Category 1 safety cases before the return to service of either reactor. Specific regulatory holds are in place for our review of relevant stage submissions.

Also similar to the situation at Hartlepool, there is a potential shortfall in the Heysham 1 turbine disintegration safety case. This shortfall, regarding the amount of turbine lubrication oil that may be released during a turbine disintegration event, will need to be resolved before return to service of either reactor.

The licensee continues work on the essential cooling water project reported in our previous newsletter. This project will be completed before return to service of the reactors.

Licence Instrument 545 gave our Agreement to the design safety principles and functional specification for the pre-stress lock-in and the functional specifications for the associated external thermal shield and environmental control system, in support of the BCU Safety Case Paper of Principle.

The Heysham 1 Reactor 2 scheduled three-yearly statutory outage began on 1 May 2008 and the planned maintenance activities were completed satisfactorily.

An INES 1 event reported to HSE on 25 June 2008 involved an interlock being defeated without proper process. Our investigation into this event should be concluded shortly.

Heysham 2

In July 2008, plant operators discovered a steam leak in a small drain pipe on the turbine gland steam system which could not be isolated while Reactor 8 was on load. The licensee decided to shut the reactor down to carry out repairs in a safe manner. During the shutdown no plant operating limits or conditions were exceeded. In addition, the licensee decided to refuel the reactor while it was shut down and carried out other plant maintenance and repair work which required a shut down reactor.

The annual 'review of safety' meeting took place in July 2008. This meeting provided an opportunity for the licensee (station and internal company regulators) to present their review of safety-related activities on the site during the past year. In addition, activities and challenges were outlined by the station for the forthcoming year and a comprehensive report was provided on progress in all the key safety areas, and the licensee made commitments to improve safety where practicable during the next year. We noted the commitments and will monitor progress and discuss again at the 2009 review of safety meeting.

No events have occurred that challenged the station's safety case, and no events have been reported above an INES rating of 1.

Hinkley Point B

During this reporting period Hinkley Point B Reactor 3 was shut down between 30 June and 2 August 2008. In this period, 13 reactor core edge channels were defuelled and inspected to provide confidence in the integrity of the core restraint system and routine graphite monitoring data. In addition, modifications were installed to improve the boiler tube failure safety case. This included the installation of bursting discs in the pre-stressed concrete pressure vessel safety relief valve discharge line and modifications to improve gas circulator endurance, in the event of water ingress.

Hinkley Point B Reactor 4 operated at steady power throughout the reporting period.

A site emergency exercise was held on 5 June 2008. This was a repeat exercise to demonstrate improvements in casualty search and rescue and plant damage repair arrangements. These improvements were identified as being necessary at the annual site emergency exercise on 27 February 2008. We considered the repeat exercise to be an adequate demonstration of the emergency arrangements.

There have been no significant incidents on the site during the reporting period (rated above INES 0).

Hunterston B

Throughout the period Reactor 3 operated at 70% of design power, to remain within the boiler tube safety case limits. Reactor 4 was shut down for a planned outage during which there was extensive boiler work and graphite inspection.

Oldbury

We are currently assessing the graphite core safety case and have had a number of meetings with the licensee. We have been provided with further information in support of the case. The graphite safety case for both reactors refers to core irradiation limits rather than any generation end dates.

To support the graphite case, the licensee has submitted a safety case for installation of a fuel integrity monitoring system (FIMS). We are currently assessing the submission and, if satisfactory, a licence instrument will be issued agreeing to the proposal. The licensee proposes to install FIMS on both reactors.

Reactor 1 commenced its periodic shut down in accordance with Licence Condition 30 on 31 August 2006, and currently remains shut down. A few items concerning the graphite safety case need to be resolved before the issue of a Consent to Reactor 1 start up. In the meantime the licensee has continued with camera inspections of the graphite bricks and no findings affecting the Reactor 1 graphite safety case have been noted.

Reactor 2 was manually shut down in a controlled manner on 26 July 2008 to investigate a refuelling problem. The reactor returned to service on 18 August 2008.

Before this shutdown 100% of the graphite bricks of fuel channels located in the flattened region of the core were inspected by the licensee, and no findings affecting the Reactor 2 graphite safety case were noted. The licensee has agreed to undertake a programme of further inspections in the event of any full power trips. We are currently content with the continued operation of Reactor 2 in accordance with the graphite core irradiation limits justified in the safety case.

We have been formally informed that Oldbury is progressing with its plans to generate beyond the 31 December 2008. The licensee will be submitting a safety case for our assessment.

Following discovery of corrosion damage, turbine 2 was repaired and successfully tested. We assessed a safety case which justified operation of Reactor 1 and 2 turbines and secondary systems, and were content with further operation of the main turbines, secondary coolant systems, steam pipework, as well as gas circulator turbines and pipework. Before the recent shutdown, Reactor 2 was operating with turbine 1 in a crossover configuration. Reactor 2 was returned to service on 18 August 2008 with turbine 2, and the opportunity has been taken to carry out some maintenance work on turbine 1.

The licensee submitted a safety case proposing to replace five beams on each pile cap crane, located in the central block area. Following satisfactory assessment of the safety case and inspection of a major access scaffold, we issued a licence instrument 'agreeing' to the return to service of Reactor 1 and Reactor 2 pile cap cranes.

The Oldbury Level 1 emergency exercise was held on 16 July 2008. We judged that the event was an adequate demonstration of the emergency arrangements and noted that there were many excellent practices and features demonstrated in this exercise. The exercise was challenging as it demonstrated the station's response to the unavailability of the normal control centres.

Sizewell B

An unplanned reactor trip occurred at Sizewell B on 27 May 2008. The station has carried out a detailed investigation into this event. The cause of this trip was an unrevealed maintenance-induced fault on a secondary protection system trip unit. This put the unit into the trip state (ie it failed safe). When routine testing of another trip channel was carried out the reactor tripped as it should do with two out of the four protection systems being in the tripped state (two out of four trip logic). We are satisfied with the thoroughness of the company's investigation of this event but have raised with the licensee the need to address issues that led to an inadequately engineered and supervised repair to a trip unit. We will be monitoring the station's corrective actions following this event to ensure we are satisfied that a repeat event could not occur. The unit was returned to service on 28 May 2008 and has operated at full power with the exception of four days when there was a small power reduction due to the loss of a feed heater train.

During the period there have been no events at Sizewell B that register on the INES.

Grid disturbance on 27 May 2008

The event at Sizewell B reported above coincided with another event at a conventional power station and resulted in a significant grid disturbance. Operators of the electrical transmission network are set statutory limits on voltage and frequency to ensure adequate quality of supply. Arrangements are in place to ensure that appropriate steps are taken to correct any adverse trend that may occur in the quality of supply generally.

The safety cases which underpin the operation of nuclear power plants (NPP) include provisions intended to provide protection from disruption of grid supplies, including fluctuations in the quality of supply. These provisions include a combination of engineered safety features and operator actions in the event that intervention is necessary.

NPP licensees have investigated the grid disturbance on 27 May 2008 and informed us that no issues of safety significance have been identified and that all stations remained connected to grid. They acknowledge that the disturbance to supply gave rise to transient spurious indications and alarms, which they confirm were resolved within the limits of the safety case.

We have written to the licensees of power reactor sites requesting them to review further their arrangements for addressing grid disturbance events, and to identify and implement appropriate improvements. At this stage we are content that NPP licensees are responding appropriately to the issues raised by the event on 27 May 2008.

Torness

Torness has implemented technical specifications (TSs) to replace alternative format operating rules in keeping with the other six AGR stations and one PWR station within the British Energy Generation Ltd (BEGL) fleet. They broadly replicate the generic BEGL TS format and include: Use and Application Statements; Nuclear Safety Requirements; Limiting Conditions for Operation; Surveillance Requirements; and Commentaries. We approve sections of the TSs which freeze the content unless we give a further Approval to implement a change. We carried out an assessment of the TSs and inspected the station's readiness to implement them before granting Approval. The introduction of TSs were conducted in accordance with the BEGL process to control changes to the arrangements. The TSs provide consistency in specifying operational limits and conditions across BEGL stations and present clear instructions to operators on actions to take in response to plant conditions that should ensure safe operation.

During the recent period of operation, no events have been reported above an INES rating of 1.

Wylfa

Reactor 1 has been operating at full power throughout the period other than for short periods which were due to operational reasons. We issued a Consent to restart Reactor 2 on 8 August 2008 following statutory outage and the reactor went critical on 19 August 2008. During the outage we carried out a number of specialist inspections to support our regulatory decision making.

An event occurred at Wylfa on 6 August which the licensee classified INES Level 1. The event involved the inadvertent withdrawal of graphite samples from Reactor 1 operating at full power, following a fault associated with the fuel route machinery.

This operation is normally only carried out off-load. A justification for continued operation of Reactor 1 has been produced by the licensee, Magnox Electric Limited. We have started an investigation into the occurrence and the licensee's response.

The licensee reported to us on 25 June 2008 that a minor fire had occurred during the outage. This had been caused by sparks from welding activity falling onto oil-contaminated insulation below. A full site muster was initiated. The fire was quickly extinguished and there were no injuries.

We have welcomed the extent of work undertaken at Wylfa by the licensee during the 2008 Reactor 2 outage to support the safety case for the seawater cooling ring main. Extensive inspection and video recording work has been completed on parts of the ring main to provide confidence that the pipework remains fit for purpose. This follows an event at another UK power station where failure of the ring main resulted in local ground subsidence.

A number of inspections and technical meetings have taken place between our inspectors and Magnox staff to support the 2008 Reactor 2 outage. In particular, we agreed a new methodology for the assessment of oxidation damage and subsequent repair strategy to guide tube assemblies which form part of the reactor internal structure.

HSE has held further technical discussions with the licensee on the scope of the safety case which might be required to support extended generation at Wylfa beyond December 2010, should NDA decide that a business case can made.

The Wylfa Site Stakeholder Group meeting was attended on 19 June 2008. This meeting was mostly devoted to the topic of potential new nuclear build at Wylfa. A representative from BERR gave a presentation on current Government policy. There was significant public attendance and interest in new build issues at Wylfa.

Decommissioning/defuelling power reactors

Berkeley

Financial constraints continue to limit most of the planned decommissioning projects.

Safety performance at Berkeley in the reporting period has been acceptable and no events have been rated above zero on the INES scale.

Bradwell

Following our investigation into an event in April, where five ponds workers received radiological doses that were in excess of those planned for the task, we placed a hold point on any further ponds decommissioning project work. A recovery action plan was agreed and implemented. Our site inspector inspected progress in June 2008 and judged that sufficient progress had been made against the short-term actions to release the hold point. Ponds decommissioning work was subsequently restarted. A further event occurred in August in the ponds area where two ponds workers were exposed to unplanned elevated radiological conditions. Bradwell management have stopped decommissioning work in the ponds area and are investigating the event.

We observed a Level 1 emergency arrangements demonstration exercise in June and judged that Bradwell demonstrated their arrangements to an adequate standard.

Calder Hall

Although we raised no objection to Sellafield Limited's proposal earlier this year to delay defuelling in line with the Magnox Operating Programme (MOP), we have continued to monitor and discuss with Calder Hall the condition of the asset. The site informed us of its developing concern that deterioration of some parts of Calder Hall was occurring and perhaps faster than expected. We carried out inspections and agreed with the licensee's findings that there is significant corrosion of the exposed steelwork surrounding the boilers and of the upper ductwork. It is agreed that this needs to be addressed as soon as possible, to ensure the containment of the reactor and the continued dry air environment to maintain the integrity of the spent fuel. The safety case shows that as there is little heat output from the fuel

after several years of cooling and there is no cooling duty requirement for the boilers now.

The licensee was also concerned that the cold, damp and salt-laden environment of Sellafield could affect in particular the new fuel route equipment, as it is more dependent on electrical and electronic systems. We also shared this concern following inspection. When called upon, Calder Hall will need to defuel in accordance with the MOP, and doubts about the performance of the fuel route present a risk to the MOP. Sellafield Limited has responded to this issue and has discussed it with NDA. It has assured us that it intends to take steps to reduce the risk to delivery of the MOP from Calder Hall defuelling. We are satisfied with this assurance and will continue to intervene on this issue to gain confidence that Calder Hall should meet the MOP.

Chapelcross

In July 2008 we issued a licence instrument to Chapelcross agreeing to the start of defuelling of Reactor 1 under active commissioning controls. The site started to defuel the reactor, but after a short time found fuel that was stuck in the lower parts of the fuel channels. A special machine, the 'stuck element machine', had been built to cater for this eventuality, but needs to be commissioned. Defuelling has therefore paused while this is done. Preparations for defuelling of the other three reactors are progressing.

Chapelcross Level 1 emergency exercise 'India' was held in April 2008. The site was unable to account for all of the staff on site within a suitable timescale so we deemed that the exercise had not adequately demonstrated the site's arrangements. One of the requirements that we placed on the site was a further exercise to demonstrate these arrangements. This exercise is scheduled for later in 2008.

The licensee is currently producing its periodic safety review (PSR) for Chapelcross – a major review of safety that is undertaken every ten years. The licensee was due to complete its PSR submission by the end of August 2008. While we have received some review documents, the date for completion of the PSR has slipped back. This may make it difficult for both us, and the licensee, to complete necessary work before the decision date in March 2009.

Dungeness A

The reactors are now permanently shut down and passively cooled. Bulk defuelling of the reactors commenced in April 2008 and is progressing well but is subject to constraints imposed by the capacity of Sellafield's reprocessing plant. The site buildings are deteriorating following cessation of generation. In the turbine hall, roof drainage problems have necessitated the construction of an interior roof to protect 6.6 kV panels from rain ingress. The 6.6 kV panels feed essential supplies to the defuelling machine and also form part of the Dungeness B station supply. A new electrical overlay system, allowing diversion and retirement of the site's power supplies, will be expedited. Both reactor buildings will have a new roof following rain ingress on the pile cap.

Financial constraints continue to limit most of the planned decommissioning projects at Dungeness A.

Safety performance at Dungeness A in the reporting period has been acceptable and no events have been rated above zero on the INES scale.

Hinkley Point A

In response to recent maintenance issues, the licensee is carrying out a major maintenance improvement project which is due to report by the end of the year.

Hinkley Point A is still in shadow working as a prelude to setting up Magnox South as a standalone licensee. The process of finalising mostly corporate issues before re-licensing is continuing. Our inspection work on this issue is also being finalised.

As reported previously, the funding allocated in the new Lifetime Plan (LTP08) fell short of what had been anticipated before the major funding changes identified by NDA in late 2006. Morale on site is good at present, but there remain significant uncertainties regarding future funding, that are a concern to workers in terms of future job prospects and also to us in terms of safety issues and timely decommissioning. We have taken these issues up corporately with the licensee, Magnox Electric Limited.

There have been no significant accident events over this reporting period, and none above INES Level 0.

Hunterston A

The project to retrieve fuel element debris from the vaults is well developed and on-site work is set to start during 2008. This represents the largest remaining nuclear inventory on site. We had a meeting during the reporting period with the licensee to confirm progress and define an appropriate regulatory interface and permissioning hold points. A number of early safety submissions are due to be issued in the coming months.

In February 2008, the licensee realised that it had not completed some maintenance required under the maintenance schedule. As a result the licensee undertook a thorough review of maintenance and has found another instance where maintenance had not been completed. The site has prepared a programme to improve its arrangements to ensure that further occurrences do not happen. We will monitor the implementation of this programme.

Hunterston A Level 1 emergency exercise 'Stroma' was held in June 2008. We found this to be an adequate demonstration of the site's arrangements.

Sizewell A

Safety performance over the period has been adequate. Both reactors are in the post operation and defuelling safety case phase 3 cooling mode and are holding a steady temperature due to passive cooling. As reported previously, following our questions that were prompted by the delay of the planned defuelling, the site is reviewing the safety case to re-examine issues surrounding the extended storage of irradiated fuel in the reactors.

An event occurred in April where a steel tank that is part of an active effluent treatment plant leaked, with the effluent being adequately contained in a purpose-designed catchment area. The tank has been repaired and refurbished and is available for service. We have inspected the management of the refurbishment project and have found that engineering and quality processes were applied to an adequate standard.

Trawsfynydd

There was an INES Level 1 event on 21 April 2008. The site's maintenance personnel found that parts of an intermediate-level waste (ILW) handling crane had not been maintained in accordance with safety case requirements. The matter has been investigated and corrected. There were no consequences.

Maintenance improvements are being made, following recent incidents on site and work elsewhere in Magnox.

Decommissioning, waste retrieval and conditioning activities are progressing covering both solid and liquid ILW wastes. Work for the new temporary weather envelope for the reactor buildings has commenced. A wet ILW optioneering workshop was held recently to develop options for recovering these wastes.

As reported previously, the construction of the ILW store is complete and is being actively commissioned; no significant problems have arisen. Civil engineering and preparation of buildings for Safestore continues.

The funding situation is generally much healthier in Magnox North (including this site) than Magnox South, although even at Trawsfynydd the dates for entering the care and maintenance phase have moved back from those put in the 2006 plans.

Nuclear fuel cycle facilities – Sellafield Limited

Sellafield general and parent body organisation (PBO) transition

We continue to monitor progress towards the PBO transition and the previously identified dates of 6 October 2008 and 24 November 2008 for contract award and share transfer respectively still hold. However, discussions with the licensee have indicated a proposed change to the handover process which would involve replacing all but one of the executive team at the same time, at or around the time of share transfer to Nuclear Management Partners Ltd (the preferred PBO bidder), a consortium of Washington Group, AMEC and Arriva. The current plan is based on a phased handover of the executive team

roles post share transfer. We have informed both the licensee and the NDA that this change will need to be substantiated against the current option on health, safety, security and environment grounds.

The Chief Inspector has visited site to personally gauge the impact of the transition among the Sellafield workforce and site Executive, to show support for the current senior management team at this time of significant change and to personally reinforce our important regulatory messages to both the current Executive and the likely PBO secondees to Sellafield Limited. He was impressed by the dedication of staff and observed a number of new safety initiatives that have been implemented. While emphasising the importance of continued good leadership and management, Dr Weightman was keen to get recognition of the important role that the non-executive members of the Sellafield Limited board have in providing continuity, stability and experience both now and post transition.

The Senior Regulatory Forum continues to meet on a regular basis to ensure that the existing Site Licence Company has sufficient support during this period of significant change and that an effective and efficient transition process ensues.

An agreed way ahead has been identified regarding the development of a Lifetime Plan for the Sellafield site, which will now be produced in three stages. We have clearly identified the regulatory requirement for each of these stages and the licensee is working to ensure these are satisfied.

We have now started work on a range of cross-site interventions including asset care, procurement, emergency arrangements and classification of modifications. These are areas that are considered worthy of regulatory interest because of information that we have gathered historically from planned inspections.

Funding

We are keen to see a forward programme of work agreed between the Site Licence Company and NDA that ensures safety on site and delivers continued hazard and risk reduction. Both the licensee and NDA continue to work together to develop a spending plan to address the requirements of all the various stakeholders.

The proposed three-stage plan covers, in turn:

- a justification of the ongoing safety of the site for the current year up to March 2009;
- a justification for the remaining Comprehensive Spending Review period (2009/11), which will examine a range of potential funding and resource scenarios; and
- a plan commensurate with funding and resource estimates which is sustainable into the future.

We issued a joint letter with the Environment Agency setting out the above position, reiterating that a future plan should be derived which is commensurate, and not only with ensuring safety and effective environmental protection, but also with future estimates of available funding and resource. HSE and the Environment Agency have recently been presented with a draft report dealing with Stage 1 of this process and we are currently assessing the report.

Research & Development Department strategy (analytical services)

We are continuing to discuss with Sellafield Limited their strategy proposals for the short, medium, and long-term provision of analytical services facilities in support of future site operations. The current projections for provision of such support services indicate that facilities will be required beyond 2040, so the options being considered include the replacement of the current facilities. Further meetings with Sellafield Limited to discuss the forward strategies are planned for late October 2008.

Decontamination strategy

Sellafield Limited has developed short, medium, and long-term strategies for decontamination on site. Initial discussions on the Sellafield Limited proposals have been held and further meetings are envisaged. It is considered important that the Sellafield Lifetime Plan contains adequate provision for the establishment and maintenance of suitable and sufficient decontamination facilities throughout the future site lifetime.

Thermal Oxide Reprocessing Plant (THORP)

During June and July 2008 Sellafield Limited completed the shearing and dissolving of an AGR fuel campaign. THORP has now sheared around 62 te of AGR fuel since 1 April 2008. A boiling water reactor (BWR) fuel campaign commenced mid-July. However, this was stopped after about 6 te fuel had been sheared due to problems with the operational centrifuge. It will take some months to bring the centrifuge back into operation and so Sellafield Limited proposes to modify the plant to allow the use of the standby centrifuge in early September. Sellafield Limited plans to resume shearing in October.

Sellafield Limited resumed reprocessing on 11 June 2008 and the liquors stored in the three buffer tanks were reprocessed (around 55 te fuel). The plant was shut down around the end of June in preparation for the planned THORP outage to replace the medium-active salt-free evaporator (MASFE).

The installation of equipment associated with the new MASFE continued and active connections are expected in September. Sellafield Limited intends to complete the active commissioning of the plant, which will allow the resumption of reprocessing, in December 2008.

Sellafield Limited provided information on the integrity of ponds which has satisfied HSE for now. Sellafield Limited is undertaking further substantiation work in this area and this should be available within a few months.

Our investigation into the serious injuries suffered by an operator during crane movements on 10 April 2008 is ongoing. The operator was crushed by the crane but he has now recovered and is looking to return to work.

On 7 August 2008 we issued an Improvement Notice under LC15 due to the continued slippage in completing the ten-year periodic review of the THORP safety case. The review is already more than one year overdue and if the planned completion date is met the review will be over four years late.

The third meeting of the Oxide Operating Strategy Regulatory Forum was held in June 2008. NDA gave a presentation on the first draft of the Oxide Fuel Strategy which is undergoing development. We have continued to challenge some of the assumptions that underpin the oxide strategy.

Magnox reprocessing plants

In the period April to August 2008 Sellafield Limited met its target for the amount of fuel reprocessed, the first time it had done so for several years. As planned, the reprocessing plant and other associated plants shut down on 1 September for what is intended to be a 14-week outage. We continue to inspect and assess the licensee's extensive programme of outage work.

We have continued to assess the licensee's discovery of deficiencies in some interlocks in the fuel handling plant and the proposals for correcting them. We are examining the implications for the safety case process.

As the result of concerns raised about the integrity of the THORP ponds we are assessing similar features in the fuel handling plant ponds.

Highly active liquor (HAL) stocks

A Specification (No 343) had been in place since 2001 to limit the amount of HAL that can be stored at any time and to promote HAL stocks reduction. Following the 2006 biennial review of HAL stocks, we made a public commitment to revise Specification 343. This was to lock-in the gains arising from the unplanned THORP shut down, which had led to a faster reduction of HAL stocks than predicted originally when Specification 343 was issued. A revised Specification (No 679), replacing Specification 343, was issued on 29 October 2007.

The latest (2008) biennial review of HAL stocks has now commenced. In this review, we will consider, among other things, whether the long-term steady state limits (post 2015) used in the Specification are appropriate. The review will assess evidence from Sellafield Limited that this aspect of the Specification is set too tight to allow highly active liquor evaporation and storage (HALES) to operate efficiently.

The review will also consider, in the light of Sellafield Limited's operational experience working with the new Specification, whether the forms of limit used therein can be improved in the interests of safety. Specifically, the review will consider adopting limits based on the mass of Uranium in the unprocessed fuel from which the HAL was derived (as per the oxide limit in Specification 679) rather than limiting the volume of HAL.

Sellafield Limited continues to provide us with monthly reports summarising the quantities of HAL contained in the highly active storage tanks (HASTs). These figures, supported by our inspection activities, are used to judge whether Sellafield Limited continues to meet the HAL stocks specification.

Highly active storage tanks (HASTs) integrity

Our previous reports have indicated that HAST cooling components have suffered over the years from corrosion. A number of cooling coils have been declared failed. A failure causes a breakthrough of activity into the cooling water circuits which can lead to a radioactive release if not properly managed. HAST cooling coil failure rates, and (specifically) the location of the most recent failed coils, has led to uncertainties over the ability of the newer HASTs to continue to service the needs of the HAL stocks strategy. If the HASTs start to deteriorate more quickly, then the ability of HALES to receive raffinates will be prejudiced (with important knock-on consequences). The rates of failure of cooling coils will determine the volumetric capacity of HASTs to store HAL and has the potential to constrain raffinate receipt.

Sellafield Limited's contingency plans had until recently placed considerable reliance upon a project to dose the cooling water circuits with nitrates as a way of stopping, or at least reducing the rate of, corrosion failures. Following our review of the technical information relating to nitrate dosing, and consideration by the licensee and internationally-recognised independent corrosion experts, Sellafield Limited has decided not to pursue this strategy further. In the light of this significant development, we have written requesting a revised statement of Sellafield Limited's strategy for the future safe storage of HAL.

Highly active (HA) evaporator integrity

There are currently three evaporators within HALES (referred to as Evaporators A, B and C). They are used to evaporate highly active (HA) raffinate produced during reprocessing and to process effluent from waste vitrification plant (WVP). Once concentrated through evaporation, the raffinate is called HAL. HAL is stored in the HALES facility before feeding to WVP for vitrification, which immobilises the waste for long-term storage and eventual disposal. The status of the evaporators (as of September 2008) is:

- Evaporator A: We issued a licence instrument to Sellafield Limited in April 2008 permissioning the restart of the evaporator using only the base jacket for routine heating/cooling duty (three failed coils are permanently isolated and pressurised, one is available for emergency cooling duty). It is anticipated that this unit will be restricted to WVP effluents. This is a low-volume but essential activity as ultimately the reprocessing chain would come to a halt if WVP was not able to operate due to full effluent tanks. The evaporator is also permissioned to process Magnox raffinates.
- Evaporator B: This was shut down in December 2004 following failure of a heating/cooling coil. We recently completed our assessment of an application to restart of the evaporator with only the top two heating/cooling coils operational (the two lower failed/suspect coils are isolated and pressurised). We issued the licence instrument permissioning this activity on 1 July. It is likely that the evaporator will become the main processor of Magnox raffinates. The operational life of the evaporator in this mode could be quite considerable, provided that waterside corrosion does not cause premature coil failure.
- Evaporator C: We issued a licence instrument in May 2008 to extend its permissioned activities (Magnox fuel and WVP effluents) to include an additional quantity of oxide fuel.

The completion of the Evaporator B permissioning represented a significant milestone for HALES with all three existing evaporators now operational. However there is no room for complacency because the evaporators are relatively old and their long-term integrity must be kept under review.

We continue to engage Sellafield Limited on the provision of new evaporative capacity. Groundworks for Evaporator D are completed but the expected start to work on the base at the beginning of 2008 has been delayed. The pre-construction safety case for Evaporator D is now expected towards the end of 2008. We are working closely with Sellafield Limited, the Environment Agency and NDA on opportunities to accelerate Evaporator D while ensuring that the safety of design and construction is not compromised. Sellafield Limited is also considering the need for further evaporative capacity (Evaporator E).

Waste vitrification plant (WVP)

WVP Line 3 has operated fairly consistently. Line 1 suffered a plant malfunction in February which resulted in the need to undertake significant repair work. The opportunity was taken to carry out planned work with the result that it is not now expected to return to HAL feed until autumn 2008. Line 2 recently began an outage to enable the plant to undergo extensive refurbishment associated with British Nuclear Group Sellafield Limited's link with COGEMA (Compagnie générale des matières nucléaires). This work should lead to lasting improvements to the throughput and reliability of Line 2. Similar work has already been undertaken on Line 1.

We observed a WVP training emergency exercise in May 2008. This was one of a series planned to familiarise high-level waste plant (HLWP) staff with the appropriate response to emergency scenarios and the various emergency management roles. This was considered to have been a well-constructed training event that HLWP staff responded to positively; it was a reasonable test of HLWP's emergency arrangements. We commented on the need for management to satisfy itself that services required in an emergency will function on demand.

Residue export facility (REF)

Commissioning of REF is running slightly behind programme. We continue to maintain regular contact on this strategically important project. Regulatory issues include the necessary interfaces with other facilities at Sellafield to ensure the safe and timely export overseas of containers of high-level waste (in accordance with government policy on waste substitution).

We issued a licence instrument to permission the start of phase 1 active commissioning, work which is now underway. As part of our consideration of the safety case for phase 2 active commissioning, we observed a demonstration emergency exercise in late June. There were a number of positives arising from this exercise, not least the enthusiasm of the participants and the desire of Sellafield Limited to maximise the learning potential. However, the performance at the access control point (ACP) was not fully acceptable and HSE welcomed the licensee's suggestion to arrange a second exercise in September 2008 (ahead of the phase 2 Licence Instrument) to facilitate demonstration of ACP control. Sellafield Limited will shortly submit a request for permission to commence phase 2 in autumn 2008.

Sellafield product residues store (SPRS)

SPRS has made steady progress during this reporting period. Work on fitting out the facility has continued. We are expecting the submission of the PICSR (Pre-Inactive Commissioning Safety Report) towards the end of September.

The ground floor inspection machines and the charge machine on the lower west floor have now been handed over to commissioning, representing the achievement of a number of key installation milestones. Basic function testing will be undertaken and, following approval of the PICSR submission, there will be full system integrated inactive commissioning.

SPRS has now realised over 12 month's operation without a lost-time accident and is in excess of 900 000 staff-hours without incident.

The problem identified with the fixing of internal seismic restraints for the modules, due to warping occurring during welding operations, is still under investigation. Sellafield Limited is investigating the issue and we continue to monitor the situation.

HALES overdue plant maintenance schedule items

On 28 November 2007 we were informed that a significant number of activities on the plant maintenance schedule (PMS) for HALES were overdue. We sought formal assurance from Sellafield Limited, based

on the Site Licence requirements to ensure that HALES has adequate arrangements for the regular and systematic examination, inspection, maintenance and testing (EIM&T) of all plant which may affect safety. The meeting held on 27 May 2008, demonstrated that the licensee is making good progress dealing with issues arising from the HALES overdue PMS event. The HALES PMS is under tight control and the licensee has made significant improvements to the management of the facility. However, a number of other (non-PMS) EIM&T activities are overdue and the licensee is driving to ensure that all items are completed promptly. We remain to be convinced fully as to the capability within the engineering teams and that the initiatives to stem the flow of experienced engineers from HALES will be fully effective.

HALES contamination event, 20 June 2008

Sellafield Limited reported to us that radioactive contamination had been detected on two operators who had been working on the compressed air system in HALES. Subsequent checks found that the source of the contamination was a quantity of liquid on the floor area where the operators were working. The radiological implications for the operators were not significant. An assessment of the type of activity and quantity of liquid spillage indicated that it was below the amount requiring notification under the Ionising Radiations Regulations 1999 but exceeded 10% of the notification level and thus the company level trigger for reporting.

We decided not to launch an independent investigation into this incident but we are closely monitoring the licensee's investigation. We will decide on any necessary follow-up regulatory action when the licensee's investigation report is completed.

Effluent plants

A recent emergency exercise successfully demonstrated the overall ability of the effluent plant's incident control centre to cope with an emergency. However, it exposed shortcomings in terms of implementing specific aspects of the site's arrangements for emergencies. The deficiencies are due to a shortage of suitably qualified and experienced personnel (SQEP) on shifts to staff the Incident Control Centres, failures to complete training, and failure to decide on a fixed location for an access control point.

Encapsulation plants

The waste encapsulation plant, Magnox encapsulation plant and waste packaging and encapsulation plant have operated successfully during the reporting period. Sellafield Limited has indicated that the next phase of drum inspections will be taking place during September and early October 2008. Preparations are going well, and Sellafield Limited has installed the RadScan gamma doserate profiling instrument in the Encapsulated Product Store 1 import/export cell.

Waste treatment complex (WTC)

An event occurred on 24 October 2006 involving a major injury to a worker in WTC, caused by inadequate control of emergency stop and isolation systems associated with the supercompactor glovebox. The licensee undertook a Board of Inquiry into the event, and we carried out an independent investigation, culminating in the issue of an Improvement Notice on 20 March 2007. The licensee's response included developing a programme of work to improve compliance with the Provision and Use of Work Equipment Regulations 1998 (PUWER) regulations 11, 15, 16 and 19, starting with an in-depth machinery-based risk assessment. The licensee completed a number of improvements in the supercompactor glovebox, and presented its proposals for a three-stage restart of WTC. In assessing Sellafield Limited's safety case to restart WTC, we judged that the licensee is now compliant with PUWER. In May 2008 Sellafield Limited submitted a paper detailing its response to our Improvement Notice. Following a further inspection, we were satisfied with Sellafield Limited's response, and closed out the Improvement Notice on 17 June 2008.

In early December 2007 WTC began the controlled three-stage restart following a 14-month shutdown caused by the above incident. The restart is programmed to take place over a period of 15–21 months.

Sellafield Limited completed Stage 1 of the trials at the end of January 2008, having undertaken two drum supercompactions per shift for some two months. We granted permission to begin

Stage 2 of the trials in early April 2008. The licensee has since increased the number of drum supercompactions per shift to four. Stage 2 remains in progress, and Sellafield Limited is expected to submit a safety case to progress to Stage 3 in a few months time. Sellafield Limited is intending to open up the feed envelope for WTC by upgrading the assay suite to receive oxide-derived plutonium contaminated material (PCM) (as well as Magnox), and by seeking from NDA's Radioactive Waste Management Directorate (formerly NIREX) a letter of compliance for decommissioning feedstock.

We met with Sellafield Limited and the Environment Agency in March 2008 to discuss plans to form a PCM Overarching Strategy Group, along the same lines as the Magnox Operating Plan and the Oxide Operating Plan. Following a further meeting, a PCM Regulatory Forum is now in place, principally to keep the regulators informed of the performance of the PCM Operational Plan, and to provide a framework for monitoring the identification and resolution of regulatory issues.

Waste monitoring and compaction facility (WAMAC)

During the 2007/08, WAMAC, the Sellafield low-level waste (LLW) processing plant, consigned 90 full-height ISOs to the Low Level Waste Repository (LLWR). However, it failed to meet its target for the number of skips tipped because of equipment performance and condition. 12 major areas of replacement/refurbishment have been undertaken, and Sellafield Limited believes that the plant should now be more reliable (cell entries have now decreased from four to one per shift).

Key to continued reliability is maintenance and condition monitoring, and Sellafield Limited is committing additional resource in this area. Clearly it is important that this facility does not become a 'bottleneck' to the operations on site, and we will continue to monitor the reliability of WAMAC.

Plutonium contaminated material (PCM) stores

PCM waste items continue to be transferred from the B300 series stores to the engineered drum stores (EDS) for continued storage. Successful transportation of two radiologically challenging items from B300s to B166 for breakdown was undertaken. This was a key phase of work required to support an OCNS regulatory notice.

A leaking filter stillage was discovered in one store, which has led to an increase in contamination controls being implemented in the area. Sellafield Limited is currently planning the safe recovery of the stillage, and considering the implementation of improvements to the containment of all the stillages as an interim measure pending the provision of safe passive storage, as required by our specification (Licence Instrument 326).
We are currently assessing Sellafield Limited's safety case for the provision of drum stillages in EDS3. These will increase the capacity of EDS3, and improve the storage method for PCM drums.

An incident occurred in EDS1 on 17 April 2008 involving an aerial release of plutonium from a leaking drum. None of the operators involved received an intake in excess of 1 mSv, but the consequences could have been more severe. Sellafield Limited responded positively to the incident and quickly introduced short-term improvements and an action plan for the longer term.

Plutonium finishing and storage (PF&S)

The permanent neutron monitoring system is now installed and connected to plant, but with elevated trip settings so that the plant does not trip spuriously during the initial period of operation. The licensee intends to submit reduced trip settings shortly, which will provide appropriate operational protection to its modification control approvals process. The system will then be operating as intended, although it will not be declared as operational until suitable reliability data has been obtained and safety documentation approved. Until this is achieved the interim neutron monitoring arrangements will continue to be used in parallel with the permanent system.

The stores inventory retrieval project (SIRP) has experienced delays since March 2008 following the identification of a fault scenario that had not been addressed during production of the safety case. This omission is being addressed and additional engineered interlocks are being introduced to equipment involved in the transfer process. We expect to receive a plant modification proposal during October 2008

from Sellafield Limited for our consideration and formal acknowledgement before transfers are resumed.

Following our formal investigation of the event in July 2007 in the central waste handling facility within the product finishing and storage facility, which resulted in the exposure of two Stobbarts Ltd employees to higher levels of ionising radiation, we issued an Improvement Notice on Stobbarts Ltd. The Improvement Notice was served due to the ongoing contravention of the Health and Safety at Work etc Act 1974, section 2(1) and the Management of Health and Safety at Work Regulations 1999, regulation 5(1). Stobbarts Ltd had not made appropriate arrangements required for their work activities undertaken on the Sellafield licensed site. Our investigation of the incident is still ongoing and we are considering whether formal enforcement action against Sellafield Limited is appropriate.

We undertook an inspection to confirm the extent of the implementation of recommendations coming from a plant operational safety case/continuing operation safety report (COSR) which had fallen significantly behind programme. Sellafield Limited believes that the delays have been due predominantly to shortage of resource resulting from the need to direct staff towards higher priority issues. The inspection identified that most of the recommendations would be implemented within the next few months with the exception of those covered by proposals to remove them from the COSR implementation plan. Following the inspection Sellafield Limited agreed to our requirement for the Head of the Magnox Operating Unit to write to us by 31 August 2008 justifying the delays, committing to a detailed, resourced and achievable programme for completion of outstanding recommendations, and justifying Sellafield Limited's proposals to remove certain recommendations from the COSR.

Sellafield MOX plant (SMP)

SMP has submitted the request for permissioning the next phase of commissioning for SMP.

Currently the plant has focused on a structured programme of work to bring the plant up to 8 te per year production rates using common procedures and production strategies. The initial rates of production were slow, but have been picking up towards the end of the period.

Windscale

The preparatory work for the Pile 1 fuel and isotope retrieval project and the testing of the prototype retrieval equipment is progressing. The Windscale Advanced Gas Reactor (WAGR) project team has begun work on removal of the final remaining part of the reactor vessel, ie the lower hemisphere. Further discussions are ongoing relating to the Sellafield Limited Windscale proposals to revise the decommissioning programmes on the Windscale site caused by funding constraints. The improvement programme within the leased post-irradiation examination facility continues to progress, and should eventually enable the facility to resume normal operation.

Emergency exercises

As a result of the Level 1 emergency exercise held at Sellafield in May 2008, we informed the licensee that the hazards and complexity of the scenario needed to be more demanding for future exercises. We have been working closely with Sellafield Limited to ensure that it reviews its programme for future Level 1 emergency exercises, so that it will provide appropriately challenging scenarios and that plants and facilities which represent significant radiological risk feature proportionately. This has resulted in a change of the designated incident plant for the next Level 1 exercise planned for November.

We have liaised with a number of local residents regarding the recent changes to the Sellafield site emergency plan that involves sounding the site siren once for a site incident and twice for an off-site nuclear emergency. It is apparent from their response that there is the potential for confusion, particularly when moving to the more significant nuclear emergency. Consequently, we have requested Sellafield Limited to review the effectiveness of its current communications strategy and whether any improvements are necessary. We are also encouraging the licensee to replace the existing siren with a new system as a matter of priority. This will allow the current arrangement to be improved so that distinctly different alarms can be used to signal a site incident and an off-site nuclear emergency.

Strategic interventions

Management of ageing plant (asset care)
Recent events and inspections at Sellafield have called into question the licensee's management of ageing plant. In response, we developed an intervention for 2007/08 to gather data on the current status of facilities and the adequacy of improvement strategies. This work was carried out by our inspectors as part of their planned inspections for compliance with Licence Condition 28 (Examination, inspection, maintenance and testing). Responses received indicate that the need for good standards of management of ageing plant is recognised but that the rate of implementation is too slow. We believe that the poor rate of progress is caused by a lack of capability within operating units. However, one success of the intervention has been the raising of awareness among Sellafield Limited staff of the need for more active management of ageing issues.

We will be working closely with Sellafield Limited to better understand the issues and to promote improved implementation during 2008/09. This is expected to involve some 'deep slice' inspections alongside the continuation of routine planned work by site inspectors.

Representatives from Sellafield Limited, HSE's Nuclear Safety Advisory Committee, NDA, the Environment Agency and HSE (NII) participated in a Maintenance and Asset Care Workshop on 24 July 2008. There was considerable interest from the respective organisations manifest by a healthy exchange of views and a fair degree of agreement on the key concerns with some good ideas on the way forward. It was recognised that there is a legacy of under-investment on Sellafield assets compared to the number of already aged facilities that will need to operate for longer than expected. We expect this issue to be addressed.

Safety performance indicators (SPIs)
In line with our initiative to ensure that a range of key performance indicators are established across the nuclear industry, we agreed a group of pilot SPIs with Sellafield Limited, which are now being trialled. Initial data has now been received. We will continue to develop this area to ensure a suitable and sufficient range of nuclear safety performance indicators are developed for the Sellafield site. The aim is to ensure that they become embedded in the licensee's organisation such that they are used effectively by Sellafield Limited management to measure and monitor nuclear safety performance and become integrated into their safety management approach.

Operational experience feedback (OEF)
An intervention to establish the adequacy and effectiveness of Sellafield Limited's OEF and process, and how lessons are learned from incidents that occur on the site, was conducted in autumn 2007. Recent contact indicates that work to further improve processes and systems is progressing well. A further intervention to sample progress across various operating units on site is scheduled for the third quarter of 2008.

Procurement
In response to the quality issues associated with flask spares, our inspectors undertook a joint inspection of the Sellafield Limited procurement process with inspectors from the Department for Transport from the 8–10 July 2008. The objective was to confirm the adequacy of the licensee's arrangements for ensuring that all safety-related equipment and components are supplied to the correct quality standards required by the safety case.

The inspection covered a range of facilities and looked at all stages of the procurement process. The inspection team made a number of recommendations it considered necessary to ensure a robust system is in place suited to the needs of its users and which would consistently provide components of appropriate quality. These covered a range of topics from the provision of training for certain key roles, to the use of local software systems, the rationalisation of material masters and the disposal of redundant, obsolete spares. We will continue to monitor the licensee's progress in addressing the recommendations, while also considering the need for any follow-up inspections.

Stakeholder engagement

We continue to report to the West Cumbria Sites Stakeholder Group and its framework of sub-committees.

Our inspectors provide full regulatory support to the Department for Food, Environment and Rural Affairs, which is leading a forthcoming technical exchange meeting with the Republic of Ireland. This is in response to the commitment to openness and transparency on Sellafield issues, which was made by the UK government.

Other nuclear fuel cycle facilities

Sellafield Limited – Capenhurst

The licensee continues to make good progress with site-wide decommissioning projects and solid radioactive waste disposals from the site, together with the recycling of non-radioactive decommissioning materials. Low-level solid waste disposals to the Low Level Waste Repository are planned to recommence in the latter half of the financial year.

The decision on the future of the 'mothballed' site incinerator, previously used to incinerate very low-level solid and oily combustible materials, is planned to be taken by NDA in early 2009.

In September we issued consents for leases of six areas of NDA-owned land (licensed to Sellafield Limited – Capenhurst) to Urenco UK Limited.

In addition to the routine Local Stakeholder Group meeting in June 2008, a special meeting was convened in August for representatives of the likely new licensee 'parent body organisation', Nuclear Management Partners, to listen to the views of the site stakeholders. Our site inspector joined the Local Stakeholder Group Chairman in emphasising the importance of the licensee addressing the disposition of the legacy uranium hexafluoride 'hex tails' in a timely manner. The licensee continues to proactively work with NDA in developing tangible proposals for addressing this issue and for the removal of other legacy uranic materials from the site. Our recent site inspections of the active commissioning of the plant to process and dispose of legacy enriched uranium hexafluoride bottled residues continue to provide regulatory assurance that a prudent approach is being maintained by the licensee to the active commissioning of this complex facility.

A conventional safety inspection of decommissioning operations was made by an inspector from HSE's Field Operations Directorate in September 2008, identifying a few minor areas for improvement which were promptly addressed by the licensee. The continuing exemplary work of the licensee's safety representatives and their current 'Safety 1st' programme, continues to contribute to the strong safety culture, most recently demonstrated at the annual review of safety meeting in July. The overall safety performance of the site remains good.

Urenco UK Limited – Capenhurst

The name of the licensee changed from Urenco (Capenhurst) Limited to Urenco UK Limited in June 2008.

A 'silent hours' shift emergency exercise was observed by three inspectors on the evening of 5 August, with an acceptable outcome.

We gave regulatory advice to the licensee, at meetings in June and July with Urenco ChemPlants Limited staff, who are responsible for the forthcoming construction of a 'tails management facility'. This will process the Urenco 'hex tails' to the more stable, less hazardous oxide powder form of uranium.

In June 2008 the licensee announced proposals to reduce site manpower by 20% by the end of 2010. We will scrutinise the licensee's proposals and its application of the Licence Condition 36 arrangements to justify such significant staff reductions.

A conventional safety inspection of the mechanical installation of additional enrichment plant equipment was made in August, with a satisfactory outcome.

The overall safety performance of the site remains good.

Springfields Fuels Limited

The annual review of safety was held in June 2008 and was combined with an inspection of the process plants used to recover and recycle enriched uranic residues. The outcome was acceptable. The involvement of the active site safety representatives was well demonstrated.

In August, our inspection of the storage arrangements for a range of uranic residue materials illustrated the importance of the timely processing of the balance of these uranic residues. Some of these residues are owned by the Ministry of Defence (MoD) and the licensee had concerns regarding the future availability of funding from MoD to process those remaining that are showing signs of degradation. We prompted the licensee to secure the timely provision of future funding from MoD, alongside the funding already secured from NDA for the processing of the NDA owned uranic residues.

The licensee's learning from the boiler corrosion issue at the combined heat and power plant is still planned to be promulgated, after completion of the boiler investigations and repairs, which are still underway.

HSE and the Environment Agency are initiating the assessment of the COMAH Safety Report (submitted in April), aiming to form a view on its acceptability by the end of 2008.

The overall safety performance of the site remains good.

Nuclear research facilities

UKAEA general – restructuring project

We have continued to commit significant assessment effort to UKAEA's submission supporting the restructuring and future relicensing of UKAEA's Winfrith and Harwell sites as Research Sites Restoration Ltd (RSRL). Our formal agreement to the restructuring, which we issued in March, was subject to UKAEA satisfactorily completing a number of outstanding actions arising from both our assessment of its proposals and UKAEA's own restructuring Implementation Plan. UKAEA reported the completion of the work in May and following a readiness inspection in June and the satisfactory resolution of remaining issues, a six-month period of UKAEA's shadow working as RSRL began on 1 July 2008. Licensing of RSRL is now scheduled for February 2009, subject to the satisfactory completion of the shadow period and our receipt of an adequate final revision of UKAEA's relicensing submission.

UKAEA – Harwell and Winfrith

We are working on our response to UKAEA's proposal to adopt deferred decommissioning timescales at Harwell and Winfrith, consistent with NDA's Business Plan for 2008/11.

Dounreay fast reactor (DFR)

Consequential to the interruption to the active commissioning programme of the NaK (sodium–potassium) disposal plant due to leakages, we asked the licensee to undertake an engineering review of the ion exchange plant. This was done and several modifications have been made to the plant. Active commissioning has restarted with further modifications to be made during the programme.

Another incident was investigated concerning the recently upgraded Goliath crane in the sphere. During an inspection, it was found that a dead man's handle was disconnected. We have written to Dounreay Site Restoration Limited (DSRL) requiring improvements to the control system and to site arrangements for control of contractors.

A team of our inspectors visited Dounreay during August to inspect the breeder removal process building. It was judged that good progress had been made in the fit-out of the building and inactive commissioning work completed to date.

Prototype fast reactor (PFR)

Meetings have been held with DSRL on the water vapour nitrogen process for removing the sodium remaining in the reactor vessel. We have called in the safety case for this process for examination and future activities will be subject to permissioning.

Dounreay shaft and silo

Assessment work has started on the project to empty the shaft and silo. A meeting was held on site during August 2008 together with a familiarisation visit to the facilities.

Dounreay cementation plant (DCP)

Radioactive liquor transfers to DCP from the liquor store have resumed and the cementation of liquor has recommenced. Outstanding actions in connection with operator training are required to be completed before routine cementation operations, on a 24-hour continuous shift working pattern, can resume.

Licence Condition 7 incidents on the Dounreay site

In July 2008 we carried out a benchmarking inspection of DSRL arrangements for Licence Condition 7 and operational experience feedback. The outcome of the inspection was broadly positive with only minor observations raised with DSRL.

General safety issues at Dounreay

We expressed concern to DSRL over the accumulation of a number of minor issues and events arising during the course of this reporting period. These concerns related to deficiencies identified in safety documentation and events arising at some of the facilities at Dounreay. DSRL responded promptly to these issues informing us of the remedial actions. Their response included upgrading the 2008/09 safety improvement programme and strengthening the safety documentation production process. We will monitor the effectiveness of the DSRL response and will continue to seek improvements where necessary.

GE Healthcare Ltd

GE Healthcare at the Maynard Centre has carried out a strategic review of its business and has decided to withdraw from the radiochemical market, which they currently supply from Cardiff. As a result, radiochemical production at the Maynard Centre will cease by the end of 2009.

The site will take on additional activities as a result of the continued integration of GE Healthcare's newly acquired Whitman division. The Maynard Centre will continue as a centre for development and production of innovative products used in the detection, analysis, screening and purification of DNA, proteins and biological molecules by the pharmaceutical, life sciences and academic sectors.

These changes will be phased in over the next 12–18 months. Up to approximately 155 roles may be affected as a result of the withdrawal from radiochemical production, while activities transitioning from other GE Healthcare locations globally are expected to create up to 150 new roles at the Maynard Centre

GE Healthcare at the Grove Centre has recently successfully completed an upgrade to the Dryden manufacturing plant. This upgrade has the potential to nearly double capacity. The original Dryden manufacturing plant had been operating for more than 20 years and produced about 900 generators per week.

The benefits from the new and upgraded plant are:

- enabling increases in generator production;
- improving maintenance arrangements as there will be a standby and duty system; and
- improving radiological conditions during maintenance.

GE Healthcare at Harwell will soon only occupy one of its two licensed sites. The licence for the redundant GE site will be revoked and the site will become part of the main Harwell site when the main site is re-licensed to RSRL. Repackaging of sea dump drums and sealed source work will continue on the remaining GE Harwell site.

Imperial College

The Consort reactor ceased commercial operations on 1 April 2008. There may be scope for limited operation of the reactor for training and competence assessment of personnel pending defuelling and decommissioning. It is still intended to produce a business case to designate the reactor site as part of the NDA portfolio. The site is currently producing a lifetime plan and intends to apply for a consent under the Nuclear Reactors (Environmental Impact Assessment for Decommissioning) Regulations1999 (as amended) in late 2009, to allow decommissioning to proceed.

Defence nuclear sites

Defence facility regulation

Across the defence nuclear sector we are continuing with our intervention activities and in general we are satisfied that safety performance at the defence facilities inspected by us continues to be satisfactory – namely:

- Aldermaston and Burghfield (Atomic Weapons Establishments (AWE));
- Devonport (Devonport Royal Dockyard Ltd (DRDL));
- HM Naval Base Devonport;
- Barrow (BAE Systems Marine Ltd (BAESML));
- Derby (Rolls Royce Marine Power Operations Ltd (RRMPOL));
- HM Naval Base Clyde, Rosyth (Rosyth Royal Dockyard Ltd (RRDL)); and
- Vulcan Naval Reactor Test Establishment at Dounreay.

We continue to pursue intervention strategies that are based around project and programme working across both the weapons and propulsion sectors of the defence nuclear industry. The strategies and plans reflect the joint regulatory approach adopted by HSE and MoD's Defence Nuclear Safety Regulator (DNSR). We continue our joint working, with DNSR now playing an active role within the programme-focused Intervention Progress Groups which operate at the strategic level and prioritise intervention activity. The partnering approach on the whole is functioning well, ensuring efficient and effective use of resources between the two regulatory bodies.

MoD general – UK Staged Improvement Programme (SIP)

We have continued to engage with the MoD UK-SIP and the 'Through Life Management Plan' initiative. This aims to inform nuclear safety-related investment decisions across the 'MoD Submarine Enterprise', with initial application focusing on the Naval Nuclear Propulsion Programme. We provided our support to the initiative and have engaged with MoD at the operational level and at senior level. These discussions continue, with the caveat that robust justifications and transparency of the process will be important to secure regulatory support for this nuclear safety improvement prioritisation process.

Devonport and Rosyth

Since the acquisition of Devonport Management Limited (DML) by Babcock International Group PLC, Babcock has sought our permission to make senior management changes at Devonport under Licence Condition 36. We requested clarification of some information on Babcock's proposal and following a satisfactory response we completed the permissioning activity during August 2008. In July we engaged with the Babcock Marine Board (incorporating the DRDL Board) to discuss the implications for the company of holding a site licence. We will monitor the implementation of Babcock control of the Devonport site as part of our intervention plan over the remainder of the year. We continue our engagement with relevant stakeholders and senior management to ensure potential organisational changes are properly conceived and implemented as required by the site licence. We are confident that nuclear safety-related activities taking place at the site remain secure through the licensee's existing arrangements.

We continue to monitor MoD's progress towards implementation of the strategy for dealing with laid-up submarines at Devonport, before the commencement of decommissioning via the Future Nuclear Facilities (FNF) project. Initial activities have been completed to dismantle the Submarine Refit Complex (SRC) refuelling crane with the activity remaining programmed for completion in 2008. This will mark a significant reduction to the hazard potential of the facility and is an enabler towards fleet-time docking submarine maintenance work transferring from 10 dock to the SRC. It is expected that the licensee will submit its revised safety justification to enable fleet-time dockings in the SRC during the autumn of 2008.

Following our investigation into an event within the low-level refuelling facility and the issue of an Improvement Notice, the licensee has recognised the learning opportunity and put in place a site-wide improvement plan to address the issues raised during our investigation.

We continue to monitor the licensee's progress against this programme regularly and can report that the improvements to safety behaviours on the Devonport site are commensurate with our expectations. In recent inspections we have concentrated on arrangements used on the site to control work being undertaken and the reporting and investigation of incidents on site. We have been discussing with Babcock the mechanism by which feedback from these investigations and incidents are reflected in revised working arrangements at the site.

The work at Rosyth to decommission the majority of the facilities used for nuclear activities (RD83 Project) continues to progress safely and ahead of programme. It is anticipated that two of the three parts of the site will be offered for de-licencing during 2010. To this end, we have initiated a programme to analyse confirmatory ground samples on the two decommissioning areas. As noted in the previous report, a best practicable environmental option process, undertaken to confirm the disposal route for resin wastes stored on the third part of the site, has identified viable options and was presented to the regulators and Scottish Executive representatives as part of consultation. MoD is currently refining its proposals and gaining internal sanction for those proposals before agreeing the way forward. However the refinement process is not proceeding in a timely manner and we have been informed that the proposals may not be available for sanction during the next MoD budget cycle. A clear regulatory expectation is that the site will be decommissioned and de-licenced in a timely manner.

Barrow

Our joint regulatory intervention strategy with the DNSR continues to focus on key nuclear safety-related activities within the Astute programme. There have recently been a number of emergent quality issues. We have monitored BAE Systems Marine Ltd's response to these and we are satisfied that appropriate controls have been put in place to ensure that nuclear safety is maintained. As a result of these and other issues, inspections planned to inform permissioning decisions around active commissioning have been delayed to the last quarter of 2008.

We completed an inspection to establish the adequacy of BAE Systems Marine Ltd's arrangements under Licence Condition 17 (Quality assurance), and to benchmark the arrangements against the requirements of the relevant IAEA safety standard. In the areas inspected it was clear that BAE Systems Marine Ltd operates adequate arrangements and these in the main satisfy the requirements of the benchmark standard. Where improvements are required, these areas had already been recognised and improvement programmes are in place that are starting to deliver.

We held discussions with BAE Systems Marine Ltd, Cumbria County Council, DNSR and the MoD to discuss requirements for an off-site plan covering the operational berth at Ramsden Dock which is used by submarines on leaving the Barrow Docks system. This describes the management arrangements and emergency procedures for the protection of the public in the extremely unlikely event of an accident involving the nuclear reactor while the submarine is at Ramsden Dock. Further discussions are planned to discuss and agree the extent of testing of the integration of the arrangements at Ramsden Dock with those on the Barrow site.

We carried out a joint inspection with DNSR and inspectors from BAE's internal regulator (Nuclear Safety Regulation Department) into the arrangements for training and competency, for the appointment of 'duly authorised persons' to control and supervise operations and for control of organisational change. The improved process, which is currently being introduced to identify and manage the competencies needed for particular roles and any training gaps, shows promise and we will continue to monitor its implementation. It was also confirmed that the expected elements of a process for appointing duly authorised persons are in place and are being properly managed. In addition, much progress was evident in developing a baseline organisational structure from which BAE Systems Marine Ltd can assess the potential impact on nuclear safety of any proposed organisational changes.

Derby

We were notified by Rolls Royce Marine Power Operations Ltd that an incident occurred where some radioactive material was released in the locality of a glove box. An investigation has been initiated and is in progress. As a result of the investigation completed to date we have issued an Improvement Notice on maintenance aspects of the glove box.

In accordance with our Integrated Intervention Strategy, we continue to have early engagement with the licensee on the regeneration project for the nuclear fuel production plant. The next stage of the project is the issue of the Pre-Construction Safety and Environmental Report which is expected towards the end of 2008.

Nuclear submarine operational berths

We have been informed by MoD that it is no longer its intention to use the operational berth at Broadford Bay.

Submarine plant hazard identification and risk evaluation (HIRE)

In accordance with Radiation (Emergency Preparedness and Public Information) Regulations 2001 (REPPIR), MoD has undertaken a triennial review of HIRE for the submarine plant and associated berthing facilities. The reports of assessment (RoA) of this review have been issued as required to DNSR and ourselves and are currently under assessment. The revised HIRE and associated RoA conclude changes to the current emergency planning arrangements may be appropriate. However, to ensure a clear position and that confidence is maintained in respect of the existing arrangements, local authorities have been instructed not to revise the existing plans until we have assessed the submissions and provided further advice. Assessment of the revised generic HIRE is nearing completion. Once complete, the locally based HIREs will be evaluated and any changes to the detailed emergency planning zone communicated to the local authorities to enable them to revise their plans.

Atomic Weapons Establishment (AWE)

In accordance with our Integrated Intervention Strategy we continue to have early engagement with the licensee on significant projects to help minimise future potential regulatory risk. We have recently provided further input to the MoD and AWE in respect of proposals for new facilities at the Burghfield site and, in particular, the process to be followed in respect of the associated changes to the licensed site boundary that we expect to be made later in the year.

We continue to monitor the licensee's progress towards delivering safety improvement and risk reduction measures across both the Aldermaston and Burghfield sites, as defined within the nuclear and explosives safety programme. The scope of the programme was reviewed and updated during the period and we continue to be satisfied with the progress to date. As part of this work we are continuing to assess a number of periodic review of safety (PRS) submissions relating to facilities across both sites.

Parts of the AWE sites suffered from flooding in July 2007, particularly the Burghfield site, which delayed remediation work identified by the PRS and affected the emergency arrangements infrastructure. Following the resumption of production activities, we have continued to carefully monitor AWE's overall recovery process which has included close liaison with our colleagues in the Environment Agency. We are satisfied with AWE's further progress in this area including the provision of additional flood monitoring and protective measures both on and away from the licensed site.

As part of our regulatory intervention strategy, we have in place a number of permissioning hold points at the Aldermaston and Burghfield sites and have recently issued further licence instruments providing our agreement to certain activities. We provided our agreement to the limited, continued use of the current process facilities for weapons assembly/disassembly in accordance with our permissioning approach. This strategy is having positive results in securing the delivery of identified improvements to an agreed programme.

We are continuing to hold discussions with AWE to secure the identified improvements in criticality operating rules and operating instructions following our enforcement action in April 2008. Early indications suggest that AWE is putting in place arrangements that are much more in line with regulatory guidance and industry best practice. The notice requires the improvements to be in place by 19 January 2009. It should be noted we are satisfied that there is no immediate risk from criticality at AWE and the current arrangements continue to ensure that the risks from all activities are maintained 'As Low As Reasonably Practicable'.

We have held discussions with AWE and the local authorities as part of our role in assessing the site's emergency preparedness and the arrangements for compliance with the Radiation

(Emergency Preparedness and Public Information) Regulations 2001 (REPPIR). Recent emergency exercise outcomes have identified learning opportunities which are being addressed. The availability of resources for emergency response and effective multi-agency working around the AWE Aldermaston and Burghfield sites is a key aspect of this work. We recognised that a high priority is attached to effective interaction between: strategy and policy, emergency arrangements officers, planning officers, and between local authorities and AWE.

We responded to a number of requests for guidance and advice in respect of siting criteria for nuclear installations and associated local planning considerations for the Aldermaston and Burghfield sites through a joint workshop, attended by the licensee and the local authorities (West Berkshire, Reading, Wokingham, Hampshire and Basingstoke and Deane). The workshop covered topics including land-use planning and local development frameworks, demographic siting criteria in current usage and the requirement for nuclear safeguarding zones. We have recently advised the local planning authority that an application for a development close to the licensed site boundary should be refused on siting policy grounds.

Nuclear new build

Timescale for Generic Design Assessment (GDA)

GDA Step 3 commenced on 12 June 2008. This was a 'soft start' as the number of inspectors available for assessment in HSE's NII was below that which we previously identified as necessary for completion of Step 3 within the original 12-month target. That meant that at the start of the Step 3 process no firm completion date could be given. Completion of GDA is likely to depend on future recruitment of additional resource to NII, progress by the requesting parties on their designs and safety submissions and their responsiveness to our technical issues.

On 11 September 2008, GE-Hitachi wrote to both HSE (NII) and the Environment Agency requesting that the regulators temporarily suspend their assessment of the Economic Simplified Boiling Water Reactor (ESBWR) nuclear power station design. As a result, both regulators have ceased all assessment work on the ESBWR until further notice.

Current GDA activities

Our specialist assessors have continued assessment on all three designs based on the information supplied. Discussions have continued with requesting parties about plans for their Step 3 submissions. It should be noted that at the time of writing none of the requesting parties have yet submitted all the information required.

Plans have been progressed for use of technical support contractors. Internal HSE approval was obtained in May 2008 and an advert placed in the *Official Journal of the European Union* (OJEU). Over 90 companies responded and the first sift was completed in July, after which a second advert was placed in the OJEU.

Regular dialogue has been undertaken with overseas regulators to explore means of sharing staff and information. Several teleconferences and visits have taken place, including with Finland, France, Switzerland and USA. Work has also continued under the Multi-national Design Evaluation Programme (MDEP). We will continue to explore how much benefit we can take from these exchanges.

GDA is a new process and a lot of untried unproven procedures, processes and management and governance arrangements were put in place quickly, always with the idea that they would need testing, proving and possibly modifying. After the end of Step 2 we reviewed and reflected on these in a series of structured reviews conducted by teams from HSE (NII and OCNS), the Environment Agency, and the Joint Programme Office (set-up to administer GDA on behalf of both the Environment Agency and HSE). We decided what changes were required for us to move forwards on the rest of GDA with maximum efficiency. Many actions arose, such as updates to our guidance documents, requesting party interface protocols, programme manuals and the public comments process. These are currently being progressed.

Eleven operating companies have written to the regulators' Joint Programme Office in support of one or more reactors going

through the GDA process. Most of these are new to the UK and HSE and the Environment Agency are encouraging early dialogue with the regulators to promote their understanding of the regulatory regime. Two potential operators have recently approached HSE and asked for meetings to discuss site licensing plans. HSE and the Environment Agency are progressing initial plans for the site licensing/authorisation phase.

New documentation and public information

We have issued new and revised guidance documents:

- *New Nuclear Power Stations – Safety Assessment in an International Context;*
- *Applying for a nuclear site licence for new nuclear power stations: A step-by-step guide;*
- updated GDA Joint Regulator's Top-Tier Guide;
- HSE (NII) GDA Guidance (minor changes).

We hope shortly to publish a strategy for use of information from overseas regulators.

Additional public information has been put on the GDA website and stakeholder engagement work is continuing. This has included a seminar for non-governmental organisations and anti-nuclear group representatives in June 2008 and a presentation at a local government conference fringe meeting the following month. We have also been negotiating with requesting parties about improvements to their GDA websites and are also planning improvements to the regulators' joint new build website.

International

International Committee on Radiological Protection (ICRP)

We have continued to maintain an interest in the review and revision of both the Euratom Basic Safety Standards (BSS) Directive and the International BSS requirements level safety standard, to influence their development in a way which guards against the introduction of changes that are detrimental for the UK.

European Union – High Level Group

The European High Level Group on Nuclear Safety and Waste Management was created with the aim of maintaining and further improving the safety of nuclear installations, the safety of the management of spent fuel and radioactive waste, and the financing of the decommissioning of nuclear installations and safety of the management of spent fuel and radioactive waste. The Group has met four times since the inaugural meeting in October 2007 to develop its Terms of Reference and Work Programme. On 30 May 2008 the Group agreed the work programmes for the three sub-groups on improving Nuclear Safety; Radioactive Waste Management and Decommissioning; and Transparency. Our Chief Inspector, Dr Mike Weightman, was elected one of two Group vice-chairmen and is chairman of the sub-group on Improving Nuclear Safety Arrangements. The next meeting, on 15 October 2008, will review the progress of each of the sub-groups.

Western European Nuclear Regulators Association (WENRA)

WENRA is a non-governmental organisation comprised of the heads and senior staff members of Nuclear Regulatory Authorities of European countries with nuclear power plants. The main objectives of WENRA are to assist in the continuous improvement in nuclear safety, to provide an independent capability to examine nuclear safety in applicant countries and to be a network of chief nuclear safety regulators in Europe, exchanging experience and discussing significant safety issues. Dr Weightman attends the twice-yearly plenary meetings, and other HSE staff attend the working groups. No plenary meeting was held in the reporting period.

The Reactor Harmonisation Working Group (RHWG) of the High Level Group continues its work monitoring national action plans (to incorporate the reference levels into regulatory requirements and ensure implementation at existing nuclear power stations). The incorporation of the reference levels into UK regulatory requirements is progressing on two main fronts: firstly they

have been recognised as relevant good practice in issue 4 of ND's guide on ALARP (T/AST/005), which is on HSE's website; and secondly, by direct inclusion or mapping the reference levels in the relevant HSE (NII) Technical Assessment Guides. Implementation at existing UK power stations is considered to be at a high level, and sample inspections are planned to confirm the position.

Safety study for new reactors: WENRA has asked the RHWG to undertake a pilot study, concentrating in the first instance on identifying appropriate safety goals and a limited test of the methodology. RHWG expect to have an interim report on progress for WENRA consideration at its meeting in October 2008.

International Nuclear Regulators Association (INRA)

INRA was formed in 1997 with the aim of providing a forum for a small group of senior regulators from developed nuclear nations to discuss issues of mutual concern. INRA members are the chief nuclear regulators of Canada, France, Germany, Japan, Spain, Sweden, the USA, South Korea and the United Kingdom. The USA is the current chair of the meetings.

INRA aims to promote a frank and open exchange of information and views, members learning lessons from each others experiences, with an aim to seek international consensus on approaches to nuclear safety regulation. The INRA network complements other international exchange arrangements between regulators, and has proved useful in learning from nuclear events in various countries.

INRA aims to meet twice a year. Key issues discussed at the last meeting included a review of significant events in member countries, emergency preparedness, a visit to the USNRC Operations Centre, the use of operational feedback and the provision of assistance to countries seeking to develop nuclear power capability. In relation to this latter aspect, INRA sent a letter to IAEA.

International Atomic Energy Agency (IAEA) – Integrated Regulatory Review Service (IRRS)

IAEA was invited to conduct a modular IRRS review of our nuclear safety regulation in March 2006, in part to assess how we intend to go about the appraisal of reactor designs. The final report of the IAEA mission, together with our initial response, is on the HSE website.

The recommendations and suggestions identified in the IRRS report are being progressed by our existing working groups. Monitoring, post-IRRS, has noted variable progress but all of the issues associated with potential new build are either completed or being delivered. Our ND Management Board has agreed to ask IAEA to carry out the next modular IRRS mission at the end of 2009 and has appointed a project manager.

We also participate in IRRS missions to other countries. During this reporting period the Chief Inspector led an international mission to Germany in September 2008.

Convention on Nuclear Safety

The UK report to the three-yearly Convention on Nuclear Safety (CNS) is produced by HSE (NII) on behalf of Department for Business, Enterprise and Regulatory Reform, the lead government department. The latest review meeting of the contracting parties to CNS was held in April 2008. Dr Weightman led the UK team at the Review meeting. The UK report, responses to questions arising, and the UK Presentation are all publicly available on the HSE website.

Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management

The UK report to the three-yearly Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management (Joint Convention) is produced by HSE (NII) on behalf of the Department for Environment, Food and Rural Affairs, the lead government department. The next Review meeting of the contracting parties to the Joint Convention will be in May 2009. Before that the UK report has to be submitted by the 11 October 2008 deadline. An HSE project team, supported by external contractors and inputs from government departments, agencies, regulators and licensees, has been formed to develop the report. The Chief Inspector will lead the UK team at the review meeting next year.

Freedom of Information Act 2000 (FOI)

The Freedom of Information Act 2000 and the Environmental Information Regulations 2004 (FOI/EIR) place duties on public authorities to provide information on their activities to requesters. During the period of this report there were six FOI requests, two items of correspondence from Members of Parliament and 59 general correspondence requests during the period covered by this report.

Overall, ND has received 200 requests for information under the provisions of FOI/EIR since this legislation was introduced. 196 of these have been satisfactorily closed.

Fourteen internal reviews have taken place, with the original decisions to withhold upheld. There are currently no active internal reviews. There are currently no appeals for ND registered with the Information Commissioner. ND is dealing with an increasing number of complex requests; this has meant that on occasion the deadlines have had to be extended to enable the public interest test to be undertaken. Details of the information that has been released under the FOI/EIR can be found at: **www.hse.gov.uk/foi/latest.htm**

Information on the work of ND can be found at: **www.hse.gov.uk/nuclear** and the HSE/Environment Agency Joint Programme Office site for new reactor build/generic design assessment at: **www.hse.gov.uk/newreactors**.

On these sites you can also register for our e-bulletins and so receive periodic updates from these websites.

FOI/EIR requests relating to the work of HSE's Nuclear Directorate should be sent to:

Mike Jennions
Building 4N.1
Redgrave Court
Merton Road, Bootle
Merseyside, L20 7HS

or via email to: **NDenquiries@hse.gsi.gov.uk**

Further information

HSE priced and free publications are available by mail order from HSE Books, PO Box 1999, Sudbury, Suffolk CO10 2WA Tel: 01787 881165 Fax: 01787 313995 Website: **www.hsebooks.co.uk** (HSE priced publications are also available from bookshops and free leaflets can be downloaded from HSE's website: **www.hse.gov.uk**)

For information about health and safety ring HSE's Infoline Tel: 0845 345 0055 Fax: 0845 408 9566 Textphone: 0845 408 9577 e-mail: hse.infoline@natbrit.com or write to HSE Information Services, Caerphilly Business Park, Caerphilly CF83 3GG.

HSE's quarterly statement of nuclear incidents at nuclear installations can be obtained from www.hse.gov.uk/nuclear/quarterly-stat/index.htm or from the HSE, Nuclear Directorate, CASE team, Building 4N.2, Redgrave Court, Merton Road, Bootle, Merseyside, L20 7HS Tel: 0151 951 3484.

This document is available web only at: **www.hse.gov.uk/nuclear/newsletters.htm**

Your views

The Editor welcomes your views about the newsletter or the work of the Nuclear Directorate. While we do not undertake to publish individual letters, comments about the scope and depth of coverage will help us assess the impact of the newsletter and ensure that it remains relevant and informative. Please send any comments to: Chris Snaith, HSE, Nuclear Directorate, Building 4N.2, Redgrave Court, Merton Road, Bootle, Merseyside, L20 7HS or email: NDenquiries@hse.gsi.gov.uk.

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