

**HM NUCLEAR INSTALLATIONS INSPECTORATE**  
**BNFL SELLAFIELD AND DRIGG AND UKAEA WINDSCALE LOCAL LIAISON**  
**COMMITTEE REPORT**

**QUARTERLY REPORT FOR 1 JANUARY TO 31 MARCH 2002**

**FOREWORD**

This report is issued as part of the Health and Safety Executive's commitment to make information about inspection and regulatory activities relating to the above sites available to the public. It is for distribution to members of the Sellafield Local Liaison Committee (LLC) and covers activities associated with the regulation of safety at BNFL Sellafield and Drigg and UKAEA Windscale.

These reports are distributed quarterly and will be available on the Internet. Site Inspectors of HM Nuclear Installations Inspectorate (NII) attend LLC meetings and will be happy to respond to any questions raised there. Any other person wishing to inquire about matters covered by this report should contact HSE, Nuclear Safety Directorate Information Centre on 0151 951 4103.

This report will be put onto the HSE Website at

<http://www.hse.gov/nsd/nsdhome.htm> under "Local Liaison Committee Reports"

## **1 INSPECTIONS**

Inspectors made a total of 70 visits to the Sellafield, Calder Hall, Windscale and Drigg sites during the quarter. This involved a total of 247 days on site (see table 1 for details).

### Promoting Health and Safety

Inspectors attended a number of the BNFL Safety Representatives Forums as part of routine work. Presentations on BNFL's progress against Team Inspection recommendations, findings from inspections and investigations as well as the management of legacy materials were made. In addition inspectors had discussions with safety representatives on a number of occasions whilst undertaking plant visits.

The nominated site inspector met with a number of the Trade Union representatives to provide them with a briefing of NII inspection activities on the Sellafield site. Concerns about the effectiveness of BNFL's control over work undertaken by contractors inside radioactive controlled areas were raised with the inspector as well as the impact of the proposed Liability Management Agency.

Inspectors attended a meeting of the LLC "Regulatory Compliance" sub committee and provided information on the work done to address the Team Inspection recommendations as well as a summary of the main findings from inspection activities. Following the company providing details on the proposed Historic Waste Management strategy our expectations for the long term management of the Sellafield site were presented.

### Visits of Senior Health and Safety Regulators

Mr L G Williams (HM Chief Inspector of Nuclear Installations and Director of HSE's Nuclear Safety Directorate) visited the Windscale site on 5 February as part of his rolling programme of visits to licensed sites. Mr Williams toured the major facilities and was encouraged by the level of progress in key areas.

The Director General of the Health and Safety Executive, Mr T Walker and Mr L G Williams visited the BNFL Sellafield site on 11 January 2002. Discussions were held with local plant management and plant tours to B215, Vitrification Plants lines 1, 2 & 3 and B30 were made.

The Chief Inspector and other inspectors visited BNFL Sellafield on 22 March 2002 to discuss the arrangements for long term storage of plutonium and the treatment of its residues. The Chief inspector advised the company to take a holistic approach so to ensure that the proposed new plutonium storage facility was designed to meet all the relevant safety and security requirements

## **2 ROUTINE MATTERS**

### **2.1 SITE INSPECTION PROGRAMME**

A summary of the work undertaken to meet Site Inspection Programmes (SIP) for the BNFL Sellafield, Drigg and UKAEA sites during the planning year 2001/2 is addressed in this section of the report.

### Basic Inspection Programme

The Basic Inspection Programme consists of inspections to verify that BNFL and UKAEA are complying with the conditions attached to their respective licences. The more significant issues identified during these inspections are summarised below.

A site wide inspection of the BNFL arrangements for licence condition 34 (Containment, Control, Leakage and Escape of Radioactive material) was undertaken in January 2002. Overall the documented arrangements were considered to be reasonable, but the degree of implementation was variable and judged insufficient to demonstrate effective compliance. The company has been required to provide an action plan to respond to our general findings by 1 May 2002. Areas of concern were identified in a number of buildings and these are being addressed separately (see sections 3.3, 3.7 and 4.3 of this report).

The work completed by BNFL to respond to the inspection of the licence condition 28 (Maintenance) inspection has been reviewed (see report for Q3 2001). A comprehensive action plan has been developed and a new site Maintenance policy issued. We were encouraged to find that action has been taken to address a specific concern relating to the inspection and condition of the civil structures. A Civil Engineering Authority has been created to set the standard for, and review the findings of, inspection of structures. BNFL has promised that a review of the outstanding actions from these inspections will be completed by end March 2002. A Code of Practice for future inspections as well as specific plant inspection schedules are also expected to be prepared at this time.

A review the work undertaken to address the findings the licence condition 4 & 5 (Control of Nuclear Matter) inspection was undertaken (see report for Q3 2001). Concerned was raised that the company appeared only to be addressing the specific matters identified by our inspection rather than determining what actions were necessary to ensure that adequate arrangements were developed and implemented. BNFL undertook to review their plans and to submit a comprehensive action plan by mid March 2002. The revised action plan has been received and is now considered to be acceptable. However, it has been established that that an approved plan for the long term management of plutonium and its residues is not available. This matter was followed up by the Chief Inspector during his visit to the site on 22 March 2002 (see section 1).

### Emergency Exercises and Arrangements

The effectiveness of the Sellafield site emergency arrangements, based on an event associated with the movement of plutonium contaminated material (PCM) on the site, was observed by an number of inspectors during exercise MERCURY 5 on 20 February 2002. The exercise had been arranged to demonstrate that improvements had been achieved in the company's ability to carry out an effective roll call to identify and account for personnel on the site as well as the actions taken by the UKAEA Police during an emergency. We judged that it was a satisfactory demonstration of these particular aspects as well as enabling a number of other areas of good performance to be observed.

Details of the scenario for the next full site emergency exercise to be held in May 2002 have been discussed. This exercise will be centred upon the B30 plant and require a full off-site emergency response.

## 2.2 TEAM INSPECTION OF OPERATIONS AT SELLAFIELD

Work to review and monitor BNFL's actions to respond to the "Team Inspection" report has continued. A report summarising work completed during the past two years has been prepared and is awaiting publication.

BNFL has submitted claims for completion of recommendations 9 and 10 and continued to submit claims for achievement of the work identified as "key deliverables" in their response to our report. Owing to resource limitations we have not been able to complete the review of the evidence files for recommendations 9 and 10 (associated with the availability and visibility of management).

Several meetings to discuss developments of the company's plans to address recommendation 5 (Single Safety Management System) have been held. We have been unable to accept BNFL's claim that "11 key licence condition arrangements had been implemented" since insufficient evidence of implementation has been provided.

A series of inspections of BNFL's progress towards implementation of recommendation 23 (plant labelling, drawings and configuration control) have included visits to a number of the facilities. These inspections, combined with an inspection of the electronic drawing registry system, indicate continuing good progress towards satisfactory implementation of this recommendation in line with BNFL's plans.

Progress against team inspection recommendations 24 and 25 (Safe Systems of Work and Isolations) has been reviewed. We still have concerns about the effectiveness of implementation of the new Safe System of Work arrangements. Hence we have been unable to acknowledge BNFL's claims for achievement of the implementation of new plant isolation and handback arrangements.

## 2.3 CONTINUED OPERATIONS SAFETY REPORTS (COSR)

BNFL has developed a programme to meet the requirements of licence condition 15 (periodic review and reassessment of safety) to prepare Continued Operations Safety Reports (COSR) for each plant and service on the site. These COSR documents are submitted to NII in accordance with an agreed programme. In order to provide assurance that the safety case is adequate a selective number of COSRs have been subject to examination and assessment by NII. This work is aimed at providing assurance that the COSRs have been prepared and reviewed in accordance with agreed process and it ensures that an action plan for implementing risk reduction measures has been issued.

BNFL has continued to progress satisfactorily its programme for preparing and delivering COSRs. One further COSR was submitted to NII during the reporting period and one further COSR was implemented. 22 have been submitted to date. BNFL has completed the implementation of first phase requirements of the COSR in 14 out of 16 scheduled plants. Some changes to the previous programme have been made to reflect the lessons learned during the preparation and implementation of the earlier COSRs. Whilst the COSR process is working it is resource intensive. NII has agreed to a revised programme of submissions, intended to deliver more focused safety cases, and will monitor the streamlining of the safety cases now proposed by BNFL.

The streamlining proposed reflects the need of plants which are at the end of their operational life and entering decommissioning, and also of new plant with a recent safety case, much of which remains fit for purpose.

The safety review includes an action plan for implementing, in phases, the risk reduction measures identified. Implementing these sometimes takes longer than originally planned because of practical obstacles which may emerge. At the end of the first phase, the COSR is adopted as the new safety case for the plant. NII is monitoring, selectively, the second, follow-up, phase which includes implementation of less urgent safety improvements.

### **3 NON-ROUTINE MATTERS**

#### **3.1 GENERAL SITE MATTERS**

##### Amendment to UKAEA Windscale and BNFL Sellafield site licences

A resolution to the policy issue preventing progress on the change to boundaries between the two sites has been achieved. A joint inspection between the nominated inspectors for BNFL Sellafield and UKAEA Windscale of buildings affected by the proposed boundary change has been undertaken. No significant issues were raised, although housekeeping in a number of areas could be improved.

##### Long Term Plan, including Historic Waste Management

A number of individual strategies associated with the long term management of the BNFL Sellafield site have been prepared and provided to NII for comment. We have provided initial feedback to the company and requested an overall project programme to include key decision dates for the main legacy plants and the identification of plant interdependencies. Our regulatory approach will remain a combination of advice/encouragement for specific projects, together with enforcement action where necessary to ensure that the necessary funded programmes are implemented.

##### COMAH

BNFL has provided the formal notification of its change from COMAH “top tier” to “lower tier” status due to a reduction in its hazardous substances inventory. NB A “lower tier” site is not required to produce a COMAH safety report. BNFL has advised of its intent to improve arrangements for inventory control to maintain “lower tier” status and to minimise stocks of hazardous substances on the site.

##### Operating Instructions - Licence Condition 24 (LC24)

A review of progress against the LC24 Operating Instructions improvement programme has confirmed that work has been done to integrate this project with Team Inspection recommendations 10 & 11 (associated with training and competency). This had resulted in a further revision to the project definition and a delay in the submission of Revenue Expenditure Proposal (REP) to the Site Management Executive. As a result of these discussions we are content with the company’s plans as the considerable “up front work” appears to be well thought out and will probably lead to more effective implementation. However, this is dependant upon the REP being approved and a revised integrated action plan being submitted by in early April 2002.

### Risk Assessments

BNFL's plans to address the "Risk Assessment" Improvement Notice I/2001/NSD/HKR/001 have been reviewed and a number of inspections undertaken. We are content that if these plans are properly implemented then the requirements of the Improvement Notice will be discharged. We have been encouraged to find that work is planned to challenge and change the attitudes of people who prepare risk assessments as part of ensuring their competence.

### Licence Condition 35 (Decommissioning) arrangements

In July 2000 BNFL undertook to revise the Sellafield site decommissioning arrangements as required by licence condition 35 to take account of our concerns. New site arrangements were expected to be issued in November 2001 with implementation being achieved by March 2002. Inspection in February 2002 identified that the new site arrangements had not been issued.

### Control of Software Modifications

A review of progress made to address the requirements of an Improvement Notice I/2000/NSD/HKR/01 due for compliance by 18 April 2002 identified that BNFL appear to be on course for discharging its requirements.

### Control of Radioactive Wastes

Inspections of the arrangements for the control and containment of radioactive materials accumulated within the Separation Area were carried out in order to assess whether BNFL had completed sufficient work to discharge Improvement Notice I/2000/NSD/HKR/02 before its due date of 29 April 2002. These inspections confirmed that significant quantities of radioactive materials have been removed from the area. However, we judged that BNFL had not done sufficient work to address the overall requirements of the Improvement Notice.

## 3.2 INCIDENTS

A number of incidents were investigated by inspectors during the quarter. The details of two events are summarised below and have been reported in the Sellafield Newsletters. These incidents may be included in a future edition of the HSE Quarterly Statement of Incidents.

### Uncontrolled Descent of Calder Hall Fuel Elements

On 8 February, following completion of inactive commissioning of the Calder Hall fuel route, a basket filled with irradiated fuel unexpectedly descended approximately 6m before stopping. The problem arose whilst carrying out the first lowering sequence with a basket of irradiated fuel. This plant had been modified and out of service for a prolonged period. We had required the company to return the fuel route into service under commissioning arrangements in order to accommodate the possibility of problems occurring. There was no health risk to either members of the public or personnel on site as a result of this incident and the problem was bounded by the extant safety case. Furthermore, there was no direct link between the cause of this uncontrolled descent and the dropped fuel incident which occurred at Chapelcross in July 2001 (see section 3.10).

Inspectors observed the recovery operation and undertook a number of associated compliance inspections. They observed good performance by BNFL's personnel involved in managing the response to the event, providing confirmation that all the fuel elements

were in the basket, and the development and successful deployment of a recovery procedure. The flask of fuel was subsequently removed to B311 in the normal way. Further active commissioning of the Calder Hall fuel route has been suspended until BNFL reports the outcome of its internal investigation and completes any requirements for remedial action.

#### High Radiation Levels from Flask

On 12 March UKAEA reported that a flask containing a redundant Cobalt source was emitting high levels of radiation from its underside. The flask had been transferred from a hospital and was being received in the B13 plant. No significant radiation doses were received by any individual handling the flask. DTLR's Radioactive Materials Transport Division is taking a regulatory lead and a joint investigation with HSE's Field Operations Directorate is underway. NII will contribute as and when required.

### 3.3 MAGNOX REPROCESSING OPERATIONS

Inspection has confirmed that BNFL has met its targets for reprocessing of Magnox fuel in the financial year 2001/2. The target for 2002/3 (which is important in terms of BNFL being able to achieve the announced closure date for the reprocessing facilities) will require steady operations at a slightly higher rate than that achieved during 2001/2, as well as a twelve week maintenance shutdown.

BNFL has made some progress with in-pond conditions in the Fuel Handling Plant; caesium levels have reduced and dose rates have fallen. However, the planned improvements have been constrained by plant failures in the SIXEP facility and by interactions with other facilities discharging to sea through this route. We remain concerned with the current plant conditions and have written to BNFL seeking dates of implementation of identified plant improvements and estimated dates for return of the pond conditions to normal.

Problems continue with the transfer of caesium to some power station ponds from the Fuel Handling Plant with empty fuel skips. Inspection has confirmed that some progress has been made in identifying the cause and evaluating possible solutions and some interim controls have been put in place.

Inspection of arrangements for the characterisation and control of Magnox fuel fed into the reprocessing plants and the use of the information for compliance with the safety case requirements has been completed. No significant issues were identified, but some areas for improvements were identified; BNFL has been asked review our findings and to implement necessary changes.

### 3.4 THORP OPERATIONS, INCLUDING HIGH LEVEL WASTE PLANTS

#### THORP

The plant operated normally during the quarter, meeting its year end production targets and then commenced a sequential shutdown towards the end of the financial year (March 2002) for a maintenance outage. The outage is planned to run from mid March to May and we are monitoring the control of work during this period. During the forthcoming year three maintenance outages are scheduled so that routine maintenance and engineering work can be carried out. This will reduce the planned reprocessing throughput from the level achieved in 2001/02 and will also ease the pressure on the HAL stocks specification limit.

As reported last quarter, the plant's operational safety case currently limits processing of fuel to that with a burn up of less than 40 GW days/te. However it has always been BNFL's intention to reprocess higher burn up fuel and some of this fuel is currently stored in the B560 pond. BNFL produced a modification proposal for processing a number of trial batches of fuel with slightly higher burn-up and there has been ongoing review of these proposals. All the safety and technical issues have been resolved with BNFL and a revised safety case is expected to be submitted later in 2002.

Inspection of a project to replace the Head End Plant dissolver baskets has been undertaken. These baskets need replacing due to expected and gradual corrosion of the basket mesh. Each basket weighs approximately 3tes and is 5m high. They are to be lifted out of cell into a shielded container and transferred for storage in the B27 pond. The safety significant work will be undertaken during the outages this year. One of the early stages, involving the lifting and placement above the shielded cell of the structure for locating the shielded containers, was observed by a number of inspectors. Arrangements have been made for ongoing BNFL Project Management liaison with NII.

### B310

The Continued Operation Safety Report (COSR) for the plant has been approved and was delivered to NII at the end of January 2002. BNFL has prioritised all the recommendations and improvement work proposals are being prepared for the category 1 findings, together with a draft implementation plan. We have acknowledged receipt of the document and assessment has commenced.

### High Active Liquid Storage.

Stocks of high active liquid waste have continued to be maintained within the limits set by the Licence Specification no. 343 issued in January 2001. Work has been progressing on the follow-up issues identified in the addendum to the liquid high level waste storage report and BNFL is expected to provide a report of this work in April. A review of this report and BNFL's progress will be undertaken and details will be reported to the Local Liaison Committee.

Assessment continues of the justification to support the continuing receipt of HAL from THORP operations into B215. This is to be supplemented by further planned submissions, relating to the management of localised elevated temperatures occasionally observed within the storage tanks. One further such instance occurred in this quarter and this was promptly addressed by BNFL through enhanced liquor agitation. BNFL has implemented two additional Operating Rules to reduce the likelihood of recurrence of this effect. We are actively encouraging the translation of BNFL's research and development work into further improvements to plant operations.

Inspection has confirmed that all the radioactive waste which had been stored in an external compound for a number of years has now been either disposed of or transferred to appropriate storage facilities.

### Vitrification Plant (Lines One and Two).

Inspection has identified that vitrification performance continues to be below BNFL's targets. Both lines have operated during the quarter, but have also had extended maintenance outages. However, we have been encouraged by evidence of BNFL's improved maintenance planning and other measures which may lead to some improvement in vitrification performance.

BNFL continues to make progress towards installing the safety upgrades to the hydraulic shield doors. Proposals to improve the shield door control systems have been reviewed and these are likely to lead to further plant improvements later this year. When completed these modifications should substantially reduce the radiation exposure risk to plant operators.

Progress towards the full implementation of the plant COSR during January 2003 continues to be inspected. Adequate progress is being achieved in delivering a range of plant engineering improvements derived from the new safety case.

Waste accumulation within the plant remains a chronic problem. Inspection has confirmed that further waste has been despatched from within the plant to the site store. Furthermore, the fire fighting arrangements within the in-cell solid waste accumulations were inspected by a specialist inspector and considered to adequate.

The quality of the company's investigations into a number minor incidents was inspected. Overall, we judged that the local plant management were addressing these satisfactorily and were feeding back of lessons directly to plant personnel.

#### Vitrification Plant Line Three.

Active commissioning of the plant using diluted Highly Active Liquor (HAL) commenced during the this quarter; some vitrified product containers retrieved from the Vitrified Product Store were also handled. BNFL's phased active commissioning operations, leading to commissioning with full strength HAL, will be subject to inspection and assessment during in the next quarter. NII is supportive of the careful, measured approach to active commissioning being taken.

#### Vitrified Product Store

BNFL's proposals to rectify the corrosion of the civil structure of the store continues to be assessed and progress will be closely monitored throughout 2002. The successful retrieval of two vitrified product containers produced eleven years ago, to support Vitrification Plant Line Three active commissioning, provided reassurance in the record keeping for container storage. A Quality Assurance (QA) inspection of waste container storage within the store is planned for the next quarter.

### 3.5 MOX OPERATIONS

#### SMP

Inspectors have monitored the progressive commissioning of the plant in readiness for handling plutonium.

#### MDF

An agreement to restart the plant as a development facility to support SMP was issued following resolution of the policy issue which had prevented this agreement being granted.

### 3.6 SOLID WASTE MANAGEMENT

#### PCM Strategy

Discussions have taken place on the strategy for dealing with Plutonium Contaminated Materials (PCM) These discussions have been very constructive and it is apparent that BNFL is using external bench marking to inform future decision making. NII is supportive of any initiatives taken to promote the interests of present and future safety.

#### B100 & B300 series stores

Inspection has identified that good initiatives are being taken to comply with the requirements of Licence Instrument 324 applicable to the B100 series PCM stores. We were also pleased to receive a letter heralding a commitment to achieve substantial removal of the contents of B300 series stores by the end of 2005. These initiatives reflect well on the progress being made generally with a new emerging PCM strategy on the Sellafield and Drigg sites.

#### Drigg

Inspection has confirmed that satisfactory progress is being made on the project that will facilitate the emptying of the Drigg Magazines.

### 3.7 LIQUID EFFLUENT TREATMENT, WASTE RETRIEVAL AND DECOMMISSIONING

Inspection of the arrangements for the control of modifications to existing plant within the WR&D area was undertaken. This identified weaknesses in the categorisation of the modifications and the training provided to Plant Modification Proposal Committee chairmen. Local management were advised to provide guidance on what constitutes 'realistic fault scenarios' to ensure that categorisation takes into account the potential consequences of a fault rather than the likelihood a particular fault occurring.

#### B6

Progress with the decommissioning of B6 Pile Chimney has been monitored. The next planned phase of this work is the internal scabbling of the chimney and the installation of the access system around the filter gallery. It is understood that the equipment is being transferred from B16 chimney which has already been successfully decommissioned.

#### B29

An acknowledgement for receipt of safety documentation to enable work to start to improve the electrical switchgear to the B29 pond hoists was issued. The need for this improvement work had been identified in the revised safety case (COSR).

#### B30

A number of meetings have been held to review the company's proposals to address Improvement Notice I/2001/NSD/PIB/001 which requires a decommissioning specification and programme for the plant. It is evident that the company are treating this matter seriously, but the necessary work to prepare a realistic and funded decommissioning programme is proving to be difficult.

We remain concerned about the adequacy of contingency plans and equipment to respond to major leak from the plant. A meeting was held to review adequacy of the make up water supplies to the plant which are required to maintain pond water level in the event of a major leak. Advice on steps to take to improve reliability and the availability of make up water supplies was provided to local management. An exercise involving the failure of pipework

associated with the South Active Drain Trench was witnessed. It is evident that significantly more work to ensure that robust emergency arrangements are in place for all reasonably foreseeable scenarios is needed. We have required the company to provide a funded improvement programme for this work.

#### B31

An incident involving contractors undertaking decommissioning work in the plant was investigated following several individuals receiving radiation skin doses. Our investigation revealed weaknesses in the BNFL system for control and supervision of the work as well as inadequacies in the risk assessment. These findings were similar to those identified in a previous incident involving a contractor in THORP for which the company was prosecuted (see section 4.1). We have written to the company asking it to review its arrangements in light of our findings and to take steps to prevent a recurrence.

#### B38

Inspection for compliance with licence condition 34 (Control and Containment of Radioactive Materials) was undertaken a part of the site wide inspection of these arrangements (see section 2.1). This identified a number of areas of concern which were considered sufficient to merit enforcement action. An Improvement Notice identifying failings in the requirements of licence conditions 34 and 35 was issued (see section 4.3). In addition a Licence Specification was issued requiring the production of records associated with the accumulation and storage radioactive materials in the older part of the plant (see section 4.4).

BNFL's progress to reinstate direct and improved cooling to compartment 7 has been monitored. We remain confident that the company can achieve the required improvements in line with its programme, including the installation of permanent direct cooling by summer 2003 .

Two events involving the failure to properly control operations in the plant were followed up. The first concerned the uncontrolled entry into a declared 'confined space' whilst the second concerned the resumption of maintenance work without appropriate permission being granted. BNFL's investigations provided a number of plant specific recommendations but a number of generic issues were also identified by our inspection. These have been brought to the attention of local management for consideration and action.

#### B41

Inspection of the control of operations in the plant, including the active commissioning of the argon inerting system, was undertaken. We concluded that overall the arrangements were satisfactory, but two minor issues relating to the inerting of the tunnel needed further attention. BNFL has submitted Safety Case Strategy Overview Report which outlines the future work programme for the B41 plant and this is currently being reviewed.

An incident where a clamping plate being used to lift a metal scaffold board had slipped was investigated. It was concluded that local management were responding in a suitable manner and no further action was warranted.

#### B136

Inspection has confirmed that BNFL has implemented measures to enable Improvement Notice I/2000/NSD/PIB/004 to be discharged (see section 4.3). The company has provided improved containment to building and has initiated plans to complete the retrieval of the radioactive wastes. It was clear that the project had been well led, that the Company had gone further than the Improvement Notice had required, and that co-operation between the licensee and contractors was to be commended. Discussions on the safety cases required to enable waste retrieval to start have been initiated.

#### B206

Progress with the decommissioning of this building has been monitored. Investigations into the status of cells 3 and 5 are underway in order to determine the necessary work. Cell 6 decommissioning is nearing completion; cores are to be taken from the walls and floor to determine the radiological status.

An event which had led to the minor contamination of an operator was investigated. A review of working practices has been completed and number of changes made. We concluded that the actions being taken by local management were sufficient and no further action was taken.

#### B207

Inspection has identified that the demolition of building has been held up whilst new funding arrangements are implemented. We are encouraging BNFL to complete this work and understand that a funding decision is expected shortly.

#### B209

Discussions on the various options for the decommissioning of the PCM crates currently held in the B209 compound have taken place. The project is at an early stage and is being hindered by the lack of information on the crates contents.

#### B211

Following our request BNFL has carried out an inspections and assessment of the building roof integrity. A report of this work is expected to be supplied in April 2002 and will be subject to detailed examination by specialist inspectors.

#### B229

Inspection of control of operations and decommissioning in a number of areas within the B229 complex was undertaken. Control of operations was considered to be acceptable. However, we noted that whilst there has been some success in decommissioning, this has now virtually stopped due to resource shortages and administrative delays.

#### B241

We have requested the company to provide further information on the arrangements for detecting leakage to ground from the B241 tanks and the contingency arrangements for containment or control of activity that has already leaked to ground. This action was taken following the reporting of radioactivity in samples of taken from boreholes both on and off the site. We are in close consultation with the Environment Agency on this matter and will monitor the company's progress in this area.

### B243

An inspection of the arrangements for control of operations in B243 was undertaken following the transfer of this plant to WR&D management area. Current operations are restricted to care and maintenance and the arrangements were considered to be adequate. The inspection identified that the preparation of realistic decommissioning plans is being hampered by uncertainties with the availability of routes for the storage of the Intermediate Level Wastes (ILW).

### B277

A review of progress and safety case for the next phase of the decommissioning work was been undertaken. It is understood that BNFL intend to request for permission to commence the next phase of work during the next quarter.

### B303

We have asked BNFL to review the implications of a number of events involving the failure of equipment in the plant which is identified as having a safety function. The number of failures appears to have increased significantly since the implementation of the B303 COSR in 2001.

## 3.8 SITE AND PLANT SERVICES, INCLUDING RESEARCH & DEVELOPMENT

### B229 Technical Laboratories

An inspection of the plant Operating Rules and Criticality Clearance Certificates confirmed operations were being controlled in compliance with the relevant requirements and no significant issues found.

An investigation was carried out into a repeat incident where radioactive sample containers from the B205 Magnox reprocessing facility were cross labelled before receipt in B229. As before, radiation levels of these containers varied by several orders of magnitude. We are continuing to pursue with B229 management the development of appropriate Conditions for Acceptance for receipt of samples.

We are content that BNFL has made progress in increasing resources in B229 complex following earlier concerns (see 3rd quarter report for 2001).

### B235 High and Medium Active Laundry

A compliance inspection was carried out covering implementation of the Laundry Conditions for Acceptance across the site. Arrangements were generally adequate with packages on the whole well contained and labelled. One inappropriate collection point was found, but BNFL took prompt corrective action.

### Sellafield Fire Service

An compliance inspection was carried out of BNFL's arrangements for fire fighting in buildings subject to criticality control. The inspection covered Fire Service training arrangements, documentation on buildings with a criticality hazards and local procedures. These arrangements were considered to be adequate.

### Site Railways

An out of hours inspection was carried out of the control and supervision arrangements for despatch of empty fuel flasks off the site. We judged the arrangements to be adequate, but consider that clarity of the information in the Railways Quality Plan required improvement.

### 3.9 CALDER HALL OPERATIONS

Our report of the investigation into the Chapelcross Dropped Fuel Incident has been published. Copies of 'A report by HM Nuclear Installations Inspectorate of an investigation into a dropped fuel element incident at Chapelcross Nuclear Power' are available free from:

Nuclear Safety Directorate Information Center  
HSE, Room 004  
St Peter's House  
Balliol Road  
Bootle  
L20 3LZ  
Tel: 0151 951 4103 / Fax: 0151 951 4004  
e-mail: nsd.infocentre@hse.gsi.gov.uk

The report is also available on the HSE website at [www.hse.gov.uk/nsd/nsdhome](http://www.hse.gov.uk/nsd/nsdhome).

The joint recommendations for improvement at Chapelcross and Calder Hall were completed before the start of inactive commissioning of the Calder Hall fuel route (see section 3.2).

Inspection of the arrangements for the recording and investigation of events on the station identified that these were generally being satisfactorily implemented. Progress towards addressing the necessary improvement identified following the observation of emergency exercise REDLAC 28 has been reviewed and judged to be satisfactory.

A safety review meeting was held on 28 February to consider the fuel route, chargepan safety cases, performance indicators, the programme for improvement and returning reactor 1 to service. Information about the implications of chargepan tilting on the Calder Hall Reactor 1 safety case were presented to a number of inspectors. Start-up of Reactor 1 will require regulatory agreement to the revised safety justification.

### 3.10 UKAEA WINDSCALE OPERATIONS

An inspection was undertaken of the structural engineering aspects of the arrangements for care and maintenance, as part of NII's assessment of UKAEA's Quinquennial Review submission. Generally the condition of facilities was found to be reasonable, although issues were raised with regard to B14 which we believe needs a detailed structural survey without undue delay.

Following a planned inspection of conventional safety we found that standards had improved since the previous inspection in January 2001 although a number of minor issues arose. It was generally found that standards had improved since the previous inspection in January 2001 and NII welcomed the fact that the site was being proactive in a number of areas.

A follow-up inspection of compliance with Regulation 17 of the Ionising Radiations Regulations 1999 was undertaken (see 3rd quarter report for 2001). UKAEA has carried out a systematic review of Local Rules in place across the site and prepared a draft

Windscale implementation document, which provides guidance and a consistent standard for facility managers. This addresses satisfactorily the concerns expressed in 2001.

On 25 February three beta-in-air monitors in Pile 1 failed and alarmed simultaneously. The monitors are located in the ventilation outlet and are part of the Pile 1 fire detection system. Consequently the Sellafield Fire Brigade attended the plant. A fault was traced to an electrical transformer common to all three monitors. There was no fire and no radiological release, and no one was injured. However, we have expressed concern that the monitors, which are designated "key safety related equipment", had no back-up electrical supply. An enhanced inspection of Pile 1 electrical safety is being considered.

The company reported that the wrong sized brake shoes were found to have been fitted to the brake mechanism controlling the lift/lower function of the Pile 1 overhead travelling crane. Following three maintenance-related events in 2001 the maintenance of Pile 1 is a matter of concern to NII and we will be following with interest UKAEA's investigation. The event will inform an inspection of maintenance at Windscale in 2002, as part of a planned inspection of maintenance at all UKAEA licensed sites.

## **4 REGULATORY ACTIVITY**

### **4.1 PROSECUTION**

BNFL pleaded guilty to charges under section 3 of the Health and Safety at Work Act 1974 and regulations 7 & 8 of Ionising Radiations Regulations 1999 at Whitehaven Magistrate's Court on 6 March. The company were fined a total of £15,000 plus £4500 costs for these offences. The total maximum available fine for these offences in a Magistrates court is £30,000; guidance to Magistrates suggest that fines should be reduced if the defendants make an early guilty plea.

### **4.2 PROHIBITION NOTICE**

None

### **4.3 IMPROVEMENT NOTICES**

#### Satisfactory Discharge of I/2000/NSD/PIB/004 associated with B136

Inspection has confirmed that BNFL has implemented sufficient measures to inspect and make records of the contents of the radioactive waste accumulated in this building. The company has also provided improved containment to building and has initiated plans to complete the retrieval of the radioactive wastes.

#### Satisfactory Discharge of I/2001/FOD/02804 - associated with work on fragile roofs

Inspection has confirmed that BNFL identified and marked fragile roofs on the Sellafield site prior to the due date of 21 March 2002 .

#### I/2002/NSD/PIB/001 - associated with B38

This Notice requires BNFL to make improvements to the containment and leak detection systems installed to B38 compartments 1-12 and also to prepare a decommissioning programme and project specification for that part of the plant.

### **4.4 SPECIFICATION**

This requires BNFL to produce various records associated with the accumulation and storage of radioactive wastes in B38 compartments 1-12.

**TABLE 1**

**QUARTERLY RETURNS FOR  
SELLAFIELD, CALDER HALL, DRIGG AND WINDSCALE**

**DURING THE QUARTER**

**1 JANUARY - 31 MARCH 2002**

|  | BNFL<br>SELLAFIELD <sup>1</sup> | BNFL<br>CALDER HALL <sup>2</sup> | BNFL<br>DRIGG | UKAEA<br>WINDSCALE |
|--|---------------------------------|----------------------------------|---------------|--------------------|
| NUMBER OF VISITS   | 60                              | 4                                | 1             | 5                  |
| INSPECTION DAYS ON SITE  | 194                             | 13                               | 2             | 19                 |
| ENFORCEMENT ACTIONS <sup>3</sup>   | 2                               | nil                              | nil           | nil                |
| Incidents in the quarter likely to be published in HSE's quarterly "Statement of Nuclear Incidents at Nuclear Installations" | 1                               | nil                              | nil           | nil                |
| CONSENTS, APPROVALS  | nil                             | nil                              | 1             | nil                |
| LICENCE INSTRUMENTS  | 5                               | 1                                | nil           | 1                  |

<sup>1</sup> The figures shown for BNFL Sellafield are those for BNFL's chemical plants. They do not include figures for the plants within the Electricity Generation Group (see note 2 below)

<sup>2</sup> The figures shown for BNFL Calder Hall are those for the plants on the Sellafield site operated by (or for) the Electricity Generation group, primarily Calder Hall nuclear power plant.

<sup>3</sup> An enforcement action may be a Direction issued by HSE under the nuclear site licence, an Improvement Notice, or a Prohibition Notice, or the laying of information in pursuit of a prosecution.

**TABLE 2**

**APPROVALS, CONSENTS, DIRECTIONS AND WITHDRAWALS  
ISSUED**

**1 JANUARY - 31 MARCH 2002**

| REF No  | DESCRIPTION  |
|---|--|
| <b>BNFL Drigg - Nuclear Site Licence No. 29A</b>      |  |
|   | None   |
| <b>BNFL Sellafield - Nuclear Site Licence No. 31F</b> |  |
|   | None   |
| <b>UKAEA Windscale - Nuclear Site Licence No.46A</b>  |  |
| 27  | Consents to the licensee granting to Johnson Controls Limited a supplemental lease in respect of part of Building B37. |

**TABLE 3**

**LICENCE INSTRUMENTS ISSUED DURING THE QUARTER**

**1 JANUARY - 31 MARCH 2002**

| REF NO  | DESCRIPTION   |
|---|---|
| <b>BNFL Drigg - Nuclear Site Licence No. 29A</b>      |   |
|   | None  |
| <b>BNFL Sellafield - Nuclear Site Licence No. 31F</b> |   |
| 358   | Agreement to Safety Commissioning for the restart of operations in the MOX Demonstration Facility (MDF)                               |
| 383   | Acknowledgement of receipt of safety case for modifications to B29 Hoist Contractor   |
| 384   | Agreement to the Safety Commissioning Schedule for the re-commencement of defuelling activities at Calder Hall and Chapelcross        |
| 385   | Specification requiring the production of records associated with the accumulation and storage of radioactive wastes in the B38 plant |
| 386   | Acknowledgement of safety case to enable modifications to the B229 Technical Laboratories   |
| 387   | Acknowledgement of safety case for the modifications to the B277 safety case  |
| <b>UKAEA Windscale - Nuclear Site Licence No. 46A</b> |   |
|   | None  |