

HM NUCLEAR INSTALLATIONS INSPECTORATE
BNFL SELLAFIELD AND DRIGG AND UKAEA WINDSCALE LOCAL LIAISON
COMMITTEE REPORT
QUARTERLY REPORT FOR 1 OCTOBER TO 31 DECEMBER 2001

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 from HMNII made a total of 69 visits to the Sellafield, Calder Hall, Windscale and Drigg sites during the quarter. This involved a total of 223 days on site (see table 1 for details).

Improving Understanding the work of HSE / NII

The Health and Safety Executive (HSE) published the document "Reducing Risks - Protecting People" in December which explains how decisions about the control of risks from occupational hazards are taken. It starts from the basis that risks cannot be eliminated, but that the benefits of work activities should be secured whilst ensuring that the risks are properly controlled. It explains how HSE, in consultation with our stakeholders, determine when risks from work activities are unacceptable, tolerable or negligible. Inevitably this requires inspectors to balance ethical, social, economic and scientific considerations and it can sometimes mean making difficult decisions. The document sets out the process we follow, the protocols we adopt, and the criteria we apply. Copies of the document (ref ISBN 0-7176-2151-0), cost £5 and are available from HSE Books, PO Box 1999, Sudbury, Suffolk, CO10 2WA, tel: 01787 881165 or fax: 01787 313995. It is also available on the web at www.hse.gov.uk/dst/r2p2.pdf

HSE has also produced a web-based guide to measuring health & safety performance. The guide is aimed at those organisations that understand the principles of health and safety management and wish to improve their existing approach to measuring health and safety performance. The guide can be found at www.hse.gov.uk/opsunit/perfmeas.htm

The site inspector made a presentation to the main meeting of the Local Liaison Committee covering the work done by NII during the past six months. Meetings of the three sub committees were also attended during which inspectors provided briefings and answered questions relevant to the matters being considered by the committees.

Presentations about NII's objectives for the Sellafield site were made to groups of managers and workforce representatives. A number of factors which affected the relationship between NII and BNFL were highlighted and comments on the actions taken by both parties during the past 18 months were summarised.

Promoting Health and Safety

Inspectors attended a number of the BNFL Safety Representatives Forums as part of routine work. A talk to a number of safety representatives on HSE's enforcement policy, the Enforcement Management Model and the use of inspectors discretion was also made. In addition inspectors had discussions with safety representatives on a number of occasions whilst undertaking plant visits.

Presentations on NII's role in the event of a nuclear emergency were made to BNFL employees as part of their Radiological Protection Advisor training.

Inspectors met with the Sellafield based BNFL Corporate Independent inspectors (CII) to discuss lessons learned by each party's inspection and assessment programmes.

Visits of International Nuclear Regulators

As part of the Anglo-Franco Information Exchange programme, two inspectors from DSIN participated in the co-ordinated inspection of BNFL's training and competency arrangements (see section 2.1 below).

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.

An inspection of UKAEA Windscale's arrangements for compliance with the Fire Certificates (Special Premises) Regulations 1976 was undertaken during October. Generally compliance was satisfactory though there were several generic and facility specific findings. UKAEA has prepared an action plan in response to the findings and this will be subject to follow-up inspections in 2002.

An inspection of the arrangements to manage the Pile 1 fire alarm connections between UKAEA and the BNFL Sellafield sites was undertaken as part of the review of Pile 1 nuclear fire safety. The arrangements were found to be fit for purpose but would benefit from improved interfaces between UKAEA and BNFL. A number of actions on both BNFL and UKAEA were agreed.

A co-ordinated inspection of BNFL's arrangements for compliance with licence conditions 10 (Training) and 12 (Duly Authorised and Other Suitably Qualified Persons) was undertaken during November 2001. The 1999 "Team Inspection" report had identified concerns in this area and made recommendations for corrective action: recommendations 11 [consistent and effective system for safety related training and records] and 12 [consistent and effective system for appointment of DAPs and SQEPs]. The main objective the inspection was therefore to review progress in this area and to confirm that planned improvements had been effectively implemented.

The inspection provided evidence of improved compliance and that the good practices identified in THORP by the earlier Team Inspection had been maintained in the area. The improved system for appointing Duly Authorised Persons (DAPs) was judged to be robust, but was found not to be fully implemented in all areas. As a result of the inspection we had concerns that the scope of work to address the recommendations had not been fully understood and resourced. BNFL has been required to review its plans to address team inspection recommendations 11 and 12 and provide NII with details of this review and any revised programme dates by end February 2002. Following the inspection a meeting with a number of BNFL senior managers was held during which inspectors provided further information and advice on this matter.

A follow up inspection of BNFL's progress in responding to the "Maintenance" inspection was held (see report for 2nd quarter 2001). Whilst NII are supportive of the approach being taken to address the long term deficiencies we were disappointed that little action has been taken to address the short term deficiencies, in particular with respect to the scope of maintenance regime in some of the older plants on the site. BNFL undertook to initiate urgent actions and completion dates have been set for several activities by early January 2002. BNFL's actions

over the coming months will be closely monitored and regulatory action initiated should the response be judged to be inadequate.

As a result of the "Nuclear Matter" inspection undertaken during September 2001 BNFL were requested to supply details of its plans for the long term management of plutonium and uranium and also to provide an improvement plan to respond to the inspection findings. BNFL acknowledged by letter the validity of the inspection findings and supplied the improvement plan by the requested date. However, the company requested more time to supply the plutonium and uranium management plan as this document had not been approved by the BNFL Executive Board. A revised submission date of 14 January 2002 was set by NII. NII is currently reviewing the improvement plan and awaits the submission of the long term plutonium and uranium management plans.

Emergency Exercises and Arrangements

The effectiveness of the Sellafield site emergency arrangements, based on an event initiated at Calder Hall, was demonstrated during exercise REDLAC 28 on 21 November 2001. Overall the exercise was judged to be an adequate demonstration of the site emergency arrangements with a number of areas of good performance being observed. However, several long standing areas of concern were observed where performance was considered to need improvement. We had three key issues:

- { The ability to carry out an adequate roll call to identify and account for personnel on the site following an emergency
- { The control and supervision of external emergency services personnel and their equipment when used on site
- { The actions required to be taken by the UKAEA Police, to deal with off-site personnel arriving at the site gates during an emergency

BNFL's action plan to address the findings of the exercise observation is expected to be submitted in January 2002 and the company's response will be monitored.

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. BNFL has continued to achieve the majority of the work identified as "key deliverables" in their response to our report. BNFL claimed that work to meet recommendations 8 and 16 had been completed during the previous reporting period and supplied NII with evidence files to support these claims. Following review and selective inspection NII has confirmed that sufficient improvements have been made to enable the recommendations to be closed.

BNFL proposed to revise the task sheet for Team Inspection recommendation 5 (Site Management Systems). The company now plan to base the documented the Sellafield safety management system on the "key processes" identified by the work done to address recommendation 7 (new organisation structure). NII are generally supportive of this approach, but has informed the company that we are unable to agree to the proposed revised scope of work. Inspectors have offered advice on the matters which still need to be addressed to achieve our agreement. It is understood that BNFL will provide a revised task sheet and "route map" by early January 2002.

Recommendation 7 requires BNFL to make and implement changes to its organisation to ensure that health and safety can be effectively managed. A Licence Instrument was issued in October which provided the agreement to enable the implementation of the second stage of the organisational change to the site. This was granted following a review of the company's progress of the implementation on the first stage of the new organisation and the submission of a safety case to justify the commencement of the second stage of the changes.

As a result of our inspection BNFL is reviewing its plans to address recommendations 11 and 12 (see section 2.1).

BNFL propose to start a 6 month pilot of revised arrangements in an area of the site to address recommendations 14 and 15 (reporting & investigation of incidents and learning from experience [LFE]). It is understood that the trial will commence in January 2002. If the trial proves satisfactory the company proposes to roll out the arrangements across site. NII will monitor progress in this area and intends carrying out an inspection of the revised arrangements in early April 2002.

Progress against team inspection recommendations 24 and 25 (Safe Systems of Work and Isolations) has been reviewed. NII has highlighted concern with the effectiveness of implementation of the new Safe System of Work arrangements and has suggested that BNFL need to do more work in this area.

2.3 CONTINUED OPERATIONS SAFETY REPORTS (COSR)

BNFL has developed a programme to meet the requirements of licence condition 15 (periodic and 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; 21 have been submitted to date. BNFL have completed the implementation of the requirements of the COSR in 13 out of the 15 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 and the methodology needs to be refined to reflect the need of plants which are at the end of their operational life and entering decommissioning.

3 NON-ROUTINE MATTERS

3.1 GENERAL SITE MATTERS

Licence Administration

There has been no progress on the resolution of the HSE policy matter which has prevented the relicensing of the BNFL and UKAEA sites to accommodate a change to the site boundaries.

COMAH

There has been dialogue between the HSE/EA COMAH Competent Authority and BNFL regarding Sellafield's COMAH "top tier" status and the associated requirement to produce a safety report by 3 February 2002. BNFL has advised that its dangerous substances inventory has been reduced to below COMAH "top tier" levels and that its intent is to put requisite measures in place to ensure that this lower tier status is maintained. As this reduction in inventory reduces the hazard associated with these substances, HSE/EA are supportive of this proposal. NB. A "lower tier" site is not required to produce a COMAH safety report. However, there is still a duty to take all measures necessary to prevent major accidents and limit their consequences to people and the environment.

Alarm Management Project

BNFL has submitted details of the recently developed standards for alarm designation, management, control room operator training etc to NII together with an outline action plan. These have been subject to limited review and overall we are content with the work done to date. Inspectors have provided advice to BNFL representatives where further improvements could be made and the company has undertaken to include these in their action plan.

Risk Assessments

A review of progress to respond to an Improvement Notice associated with the preparation of suitable and sufficient risk assessments has confirmed that BNFL has set up a resourced project team and developed a sound action plan. However, this project team has formed the view that the company will be unable to achieve the date specified in the Improvement Notice. As a result BNFL has applied for and been granted an extension to the period for compliance with the Improvement Notice (see section 4.3).

Fire Safety

Following the earlier reported inspection BNFL developed an action plan to improve fire safety standards across the site (see 2nd quarter report for 2001). Inspection has confirmed that good progress is being made against the improvement programme and that work to address the "Steps to be taken" notice issued for the B311 plant has been achieved (see section 4.3).

3.2 INCIDENTS

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

Fall from Fragile Roof

During November a contractor fell approximately 2.5 m through an unmarked fragile roof; fortunately the individual did not suffer any significant injuries. The incident was investigated by inspectors from HSE's Field Operations Division FOD and an Improvement Notice was issued (see section 4.3).

Unplanned Radiation Exposures

Individuals working in the Post Operational Clean Out (POCO) of the B31 plant received unplanned radiation doses on two separate occasions. Following the second event BNFL suspended all work pending the outcome of their investigations. An investigation of the first event was undertaken by NII inspectors during which witness statements and other documentary evidence was obtained. We are currently reviewing the evidence against HSE's Enforcement Policy.

Water Ingress into Storage Areas

Two events involving the ingress of water into the areas where Plutonium Contaminated Materials (PCM) were being stored in B209 were investigated. Whilst accepting BNFL's argument that there was no significant risk of a criticality the ingress of water into these areas is not desirable. We have concluded that BNFL's actions to respond to the event were appropriate and work to effect repairs to the building roof have been initiated. However, the events provide further evidence to support the findings of the "Maintenance" inspection reported earlier (see 2nd report for 2001). Chronic under investment in the maintenance of assets and failure to promptly decommission redundant plant are considered to be the root causes of these events. As both these issues are the subject of other regulatory activities no specific enforcement action for these events will be taken.

Elevated Ground Water Sample Results

BNFL's routine sampling of the sub surface ground water on the site found elevated levels of Technicium 99 in a number of samples. NII has reviewed the sample result and the company's initial assessment of them. There is general agreement that further and more extensive sampling is required before the source of the Technicium 99 can be confirmed. BNFL has initiated further sampling and the results are being closely monitored by NII.

Completed Investigations

Investigations into a number of incidents which were reported in 3rd quarter 2001 report have now been completed. Our investigation into the incidents involving the incorrect sentencing of plutonium nitrate samples identified failings in the system for fissile material control as well as general supervision of activities within the laboratories. BNFL has provided details of the progress of its own investigations although these are not yet complete. Progress has been made in increasing resources to the plant which seemed to be a root cause of the incidents. No further regulatory action will be taken.

BNFL has reviewed the implications of two incidents involving the failure to implement the safety conditions identified in Operating Rules and submitted a programme of work to address improvements in other plants on the site. NII has and will continue to monitor BNFL's actions and may take regulatory action if satisfactory progress against the submitted programme is not made.

3.3 MAGNOX REPROCESSING OPERATIONS

The Magnox reprocessing plants have operated consistently for most of the quarter. Throughputs have been sufficient to keep up with fuel receipts to the site. Discussions between NII and BNFL regarding the conduct and content of the 2002 maintenance shutdown of the reprocessing plants have commenced.

We continue to be concerned over the condition of the pond water in the Fuel Handling Plant (FHP), the consequences for operator doses and for the management of the Magnox fuel cycle in general. Of particular concern has been the elevation of the radiation dose rates in the pond hall. NII is encouraged by the resources BNFL is employing in the efforts to bring about improvements. Whilst we are generally content with the short term arrangements, BNFL has been required to review their plans to ensure that they are adequate for the medium term.

Due to FHP pond problems radioactive caesium is being carried on to the surface of skips transported inside the fuel flasks. This phenomenon has given rise to problems at a number of

the Magnox power station fuel ponds. NII is seeking confirmation that BNFL is taking sufficient steps to ensure that this problem is properly managed.

3.4 THORP OPERATIONS, INCLUDING HIGH LEVEL WASTE PLANTS

THORP

Maintenance work undertaken whilst the plant was shutdown between mid September and November 2001 has been monitored. The "Head End" and "Chemical Separation" plants restarted sequentially during November at approximately half capacity throughput rates in order to maintain a margin below the HAL stock specification limits. The THORP and HAL plant Site Inspectors are monitoring progress

Advanced Fuels (High Burn-up) processing

The plant operational safety case currently limits processing of fuel to that with a burn-up of up to 40 GW days/te. However it was always intended that some higher burn up fuel would be reprocessed. BNFL produced a modification proposal for processing a number of trial batches of fuel with slightly higher burn-up and there has been ongoing discussions with the NII specialists on these proposals. Most of the safety and technical issues have been resolved and BNFL are revising the proposal. It is expected that BNFL will be resubmitting the proposal for NII's acknowledgement during the early part of 2002.

B27 Oxide Fuel Storage Pond

Inspectors observed plant personnel carry out an adequate demonstration of their emergency arrangements. This was a repeat exercise, which involved response to a seismic event and a postulated pond wall crack and release of pond water. Significant improvement on readiness and understanding of personnel on what to do were observed. However, as with most exercises, there were several learning points which need to be carried forward and these will be monitored as part of routine inspection activities.

B215

Assessment of the recently submitted justification to support the continuing receipt of THORP waste liquors into B215 has commenced. Inspection of the control of the receipt of waste liquors is continuing to ensure compliance with the Highly Active Liquid (HAL) stock reduction Specification (see 1st report for 2001). We are of the view that unless the performance of the vitrification plants improves, the future THORP reprocessing throughput will be significantly affected.

BNFL's management of the earlier localised elevated temperature in one of the Highly Active Liquor Storage tanks has been assessed, the temperature now having returned to within the normal range. NII will continue to assess BNFL's safety justification addressing the potential for enhanced corrosion and any effects on longer term tank integrity. The lessons for the future management of HAL will also be assessed.

Following the weaknesses in alarm management identified in the B215 control room during the first quarter of 2001, recent inspections found that significant improvements have been made. We are supportive of the vigorous alarm management work undertaken by the plant management and recognise that real improvements have been achieved.

Vitrification Plant - Lines 1 & 2

BNFL has achieved good progress in continuing to install the important safety upgrades to the hydraulic shield doors. The improvements significantly reduce the risks to operators working on the plant by reducing the likelihood of shield doors operating inadvertently. We have indicated to BNFL our wish to see the completion of the outstanding shield door modifications prior to the implementation of the plant COSR which is expected in January 2003. Two Licence Instruments acknowledging safety cases justifying the modification of various shield doors were issued in October.

Inspection has confirmed that the plant continues to suffer from operability problems; both lines operated only intermittently during this quarter with vitrification throughput remaining consistently below the planned performance. A range of equipment breakdowns within the cells has curtailed throughput and the production targets have been reduced. In addition little progress has been made in reducing the in-cell solid waste inventory during this quarter. Advice relating to improving the recently installed fire fighting systems to the solid waste size reduction equipment within the cells has been provided. If acted upon it is believed that this could assist in the processes for reducing the in-cell waste which remains a chronic concern.

The phased introduction of the new Safe System of Work procedures within the plant was inspected. It was noted that further staff were being trained to accommodate the ongoing substantial workload which is controlled under the new systems. A meeting was also held with the local safety representatives to discuss a range of issues and to carry out a joint plant visit.

Vitrification Plant - Line 3

Two Licence Instruments, one agreeing to the commencement of active commissioning and one to allow the implementation of the commensurate safety case, were issued in December. These were issued following substantial inspection and assessment activity by NII to monitor BNFL's progress on inactive commissioning of the new plant. It is understood that BNFL are expecting to commence active commissioning tests in January 2002, initially processing dilute waste liquors and then handling trials using an active vitrified product container. BNFL's active commissioning work will continue to be inspected and assessed.

Vitrified Product Store (VPS)

A remediation programme to address the corrosion of the civil structure identified in an earlier inspection has been received. BNFL's plans envisage undertaking the necessary refurbishment during 2002 and this will be subject to regular monitoring by the local inspector.

3.5 MOX OPERATIONS

Sellafield MOX Plant

On December 18th NII gave its approval for BNFL to commence plutonium commissioning of the plant. This approval arose as a result of a series of technical assessments and inspections of the plant including a number of final readiness reports carried out during December. This approval will allow BNFL to introduce plutonium onto the plant for the first time. This will be carried out in a gradual and progressive manner to commission the plant safely. NII's inspection of the plant will continue during this phase of the plant's operation.

MOX Demonstration Facility (MDF)

Inspections for compliance against a number of site licence condition arrangements have been completed. The level of compliance for conditions 10 (Training), 12 (Duly Authorised Persons), 17 (Quality Assurance), 22 (Modifications to Existing Plant) and 36 (Organisational Change) was considered to be satisfactory. However, BNFL has been required to make improvements in the implementation of the arrangements for LC4 (Nuclear Matter), 23 (Operating Rules), 28 (Maintenance) and 35 (Decommissioning). Plant management have implemented a number of short term improvements and supplied an action plan to address the longer term issues.

There has been no progress on the resolution of the policy issue which has prevented NII from issuing the agreement to enable BNFL to restart the plant as a development facility.

3.6 SOLID WASTE MANAGEMENT

PCM Storage

Following inspection and assessment of the buildings constructed in the 1980's to store PCM, NII formed the view that there was a need to empty the stores (see 3rd report of 2001). BNFL had planned to use these stores for at least another 10 years and initially did not consider it necessary to empty them earlier. The company has now decided to take these stores out of service by transferring the PCM waste to the newly constructed Engineered Drum Stores. Whilst the majority of this work will take until the end of 2005 to complete NII is encouraged by the new commitment made by the company.

B136

Inspection of the work to address the requirements of the Improvement Notice has confirmed that progress is being made to install an overbuilding which is required to enable inspection of the waste to undertaken and to facilitate subsequent emptying of the store.

3.7 LIQUID EFFLUENT TREATMENT, WASTE RETRIEVAL AND DECOMMISSIONING

Meetings were held between NII inspectors and the site based staff associated with waste retrieval and decommissioning activities. BNFL provided information on a number of decommissioning projects and as well as the technical problems facing some of the retrievals projects. Decommissioning of B206 and B207 is progressing steadily, but the work in B229 has halted. We were informed that the strategy for the B243 decommissioning project has changed owing to a potential "bottle-neck" in one of the down stream plants. It would appear that inadequacy of the site infrastructure to provide the necessary services to enable progress with all the current decommissioning projects is a cause of frustration to the site based staff.

B30

BNFL has suspended operations involving use of the irradiated fuel pond skip handler following concerns about the structural integrity of the steelwork supporting it. Due to severe chronic leaks in the decanner building roof, normal plant lighting has been isolated and temporary lighting fed from remote supplies has been provided. BNFL is planning to carry out remedial work on the roof in the new year. This has effectively stopped all Post Operational Clean Out (POCO) work in the plant. Following regulatory concern by both NII and the Environment Agency (EA), BNFL has agreed to instigate direct monitoring of airborne contamination arising from the open ponds. NII and EA await the results of monitoring with interest.

Following the issue of a licence Specification the Nuclear Safety Committee (NSC) considered a document reviewing the risks to the public and workforce from the B30 plant (see 2nd report for 2001). The NSC has requested local management to report back to future meetings on

progress of development of B30 improvements. Senior site management have accepted that the plant has been allowed to deteriorate to a wholly unacceptable state and confirmed that action is being taken to rectify this situation. NII are encouraged by this recognition and commitment. However, the actions taken to improve the position will be closely monitored during the coming months.

B303

Following implementation of the COSR during the summer of 2001 there has been a number of equipment failures of items which have recently been identified as safety mechanisms under the COSR process. As a result of our concerns BNFL is reviewing operability/maintainability of these devices.

B38

A Licence Instrument was issued to enable BNFL to commence an extended trial involving the management of waste water from the silo compartments. This was issued following review by of the safety case to justify and consultation with the Environment Agency. It is understood that the trial will last about one year.

The general management of radioactive waste and the control of contamination in the plant was inspected. Whilst a number of improvements were found little progress was evident with the decontamination of the plant following the compartment 7 spill over two years ago. BNFL has now set up a project to address this matter and progress will be monitored.

The Operating Rules and instructions for the nitrogen inerting system were inspected and judged to need improvement. However, we were encouraged that local management had already recognised the problem and had started the revision of these documents and retraining of staff. BNFL has undertaken to demonstrate that improvements have been made during an extended inerting trial scheduled for spring 2002.

B41

A Licence Instrument permitting BNFL to introduce argon into the silo was granted at the start of the quarter following significant assessment and inspection work. Inspection has confirmed that the first phase of the characterisation trials involving the filling a single compartment was carried out successfully. BNFL has continued with the trials on the remaining compartments and the project is now several months ahead of schedule. The completion of this work will be a significant risk reduction measure. This work has taken many years to achieve owing to significant hazards presented by the plant. BNFL has developed a programme for the remaining silo structural improvement work to the plant and have undertook to submit this to NII by the end of March 2002.

B203

BNFL's actions to investigate an incident where two Health Physics monitors were contaminated during routing survey work was examined. The mechanism by which one individual received a small internal radiation dose was unclear and BNFL has been asked to provide more information.

B204

Inspection has confirmed that BNFL has developed a solution to the corroded steelwork in to the HANO cell, but a six year programme of work is required to stabilise this part of the building. The major radioactive inventory of the building has now been removed by the emptying of the 'stainless steel silo'. The current programme requires 20 years to complete decommissioning.

B209

Inspection has highlighted that priority is being given to the removal of PCM from the solvent cells and the external compound. Visible progress in the south solvent cells was observed. Lower priority is being given to the PCM crates containing the waste from the earlier decommissioning campaign on the co-precipitation plant. Decommissioning of Line 3 was found to be in abeyance.

Pile Chimneys (B6 & B16)

Progress with the decommissioning of the pile chimneys B6 and B16 was inspected. Decommissioning of B16 is now complete, and the remaining structure operationally in care and maintenance. A six year programme of work will result in the decommissioning and demolition of much of B6.

B212 Caesium Extraction Plant

The safety documentation being prepared for the plant has been reviewed together with the strategy for the decommissioning project. BNFL are expected to make a request for NII agreement to operate the plant shortly.

3.8 RESEARCH & DEVELOPMENT OPERATIONS

B229

An investigation into an incident where radioactive sample containers from the B205 Magnox reprocessing facility were cross labelled before receipt in the B229 Technical Laboratories was undertaken. As the radiation levels of the samples can vary by several orders of magnitude there is potential for considerable harm to the operator if incorrectly handled. We noted significant variation in containment and labelling standards for samples received from different areas on site and for off site sentencing. BNFL has been required to review existing arrangements and put a revised system in place to minimise recurrence of such an incident.

3.9 SITE AND PLANT SERVICES

B39 / B550 Flask Maintenance Facilities

Inspection for compliance with Operating Rules in B550 and B39 Flask maintenance facilities was carried out. The arrangements in B550 were based primarily on engineering controls and had a clearly documented system; these were deemed to be adequate. In B39, some engineering controls were in place, but the system was not clearly documented and inconsistencies between instructions were found. BNFL has been required to take action to improve the situation and advised to compare the practices found in both plants.

Site Steam Supplies

As a result of the unavailability of the Calder Hall reactors BNFL's arrangements for the provision of a reliable supply of steam for the site have been reviewed. There are very few plants on the site which require steam supplies for safety reasons and the short term arrangements were considered to be adequate.

3.10 CALDER HALL OPERATIONS

Change of Site Inspector

To ensure continued independence site inspectors are only appointed to regulate an installation for a finite period (nominally 3 years). After 3 years in post the site inspector relinquished his post at Calder Hall and on 1 October was succeeded by an experienced inspector who previously had been regulating Hinkley Point A. A managed period of hand-over took place between the two inspectors.

Visits by Specialist Inspectors

A specialist inspector visited the station during November to discuss and make a general inspection of compliance with the Ionising Radiations Regulations. A number of good initiatives were observed and NII gave guidance on its expectations for continued improvement in this area.

A specialist inspection of arrangements for recording and investigating site incidents was carried out during December. Again some good practices were observed and those aspects where further improvement can be made will be followed up by the site inspector during future routine visits.

Chapelcross Dropped Fuel Incident

During this reporting period the new site inspector has continued to lead an investigation into this incident which took place at the beginning of July. This has been significant piece of work, but it has resulted in a reduction in the time spent at Calder Hall during this period. A report of the investigation is nearing completion and will be made public. The investigation has resulted in a number of recommendations for improvement not only at Chapelcross but also Calder Hall. These should help to ensure greater compatibility between the fuel routes of both stations. A programme of work to complete improvements required for the resumption of refuelling has been agreed and been closely monitored during the last quarter.

Chargepan Tilting

Recent inspection on Reactor 1 at Chapelcross found evidence of an increased rate of chargepan distortion which has potential safety implications and requires investigation at Calder Hall. Due to their similarity in design BNFL took the conservative decision to suspend operation of the Calder Hall reactors until it had completed an inspection programme and, if required, a programme of work to justify their restart. This work is being monitored by NII and startup of the reactors will require regulatory authorisation.

3.11 UKAEA WINDSCALE OPERATIONS

UKAEA response to the Dounreay audit

Inspection has confirmed that UKAEA's Internal Inspection Department (IID) has signed off Windscale's response to the remaining Dounreay audit recommendations and so the Windscale response is now complete. Long term actions are being tracked via site-specific action plans. Given our sample inspection in May 2001 and our confidence in IID's close-out scrutiny, no further inspection is planned. NB. The HSE/SEPA audit close-out report of the "Dounreay audit" is expected to be published in January 2002.

Contaminated land

A joint inspection with EA inspectors of the management of contaminated land on the site was undertaken. UKAEA has made good progress and full integration with equivalent Sellafield plans should be in place within two years.

B13 RAMT event

During the receipt of a radioactive materials transport (RAMT) delivery to B13 routine monitoring detected higher than expected radiation levels. Because there was no indication of any radiation dose uptake NII decided not to take immediate action, but reviewed the adequacy of UKAEA's investigation report. UKAEA concluded that no RAMT regulatory limits had been breached, however there were concerns as to late reporting and the action of B13 management. Our review of the report identified the key issues and appropriate actions had been initiated, and the speed of UKAEA's response was welcomed. DTLR's Radioactive Materials Transport Division is aware of the event and the action taken.

4 REGULATORY ACTIVITY

4.1 PROSECUTION

Summons alleging that BNFL failed to adequately protect the health and safety of a contractor during maintenance operations have been served. Charges under the Health and Safety at Work etc Act, Nuclear Installations Act 1965 and the Ionising Radiations Regulations 1999 have been made. The case is scheduled to be heard at Whitehaven Magistrates Court on 20 February 2002.

4.2 PROHIBITION NOTICE

None

4.3 IMPROVEMENT NOTICE

I/2001/FOD/02804 - associated with work on fragile roofs

This Notice was issued following an investigation into contractor falling through roof in November 2001 and requires BNFL to identify and mark all fragile roofs across site by 21 March 2002 .

Satisfactory discharge of "Steps to be Taken" for compliance with Fire Certificate

Inspection has confirmed that BNFL has implemented sufficient measures to ensure compliance with the requirements of the Fire Certificate for the B311 Fuel Handling Plant.

Extension to period for compliance with I/2001/NSD/HKR/1 Improvement Notice

The Improvement Notice requires BNFL to implement a programme of work that ensures that suitable and sufficient risk assessments are prepared for all operations and activities which may affect safety. The new date for compliance is 29 November 2002 compared to the original date of 31 May 2002.

4.4 SPECIFICATION

None.

TABLE 1

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

**DURING THE QUARTER
1 OCTOBER - 31 DECEMBER 2001**

	BNFL SELLAFIELD ¹	BNFL CALDER HALL ²	BNFL DRIGG	UKAEA WINDSCALE
NUMBER OF VISITS	57	4	1	7
INSPECTION DAYS ON SITE	182	25	1	15
ENFORCEMENT ACTIONS ³	1	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	2	nil	nil	nil
LICENCE INSTRUMENTS	8	nil	nil	nil

¹ 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)

² 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.

³ 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 OCTOBER - 31 DECEMBER 2001**

REF No	DESCRIPTION
BNFL Sellafield - Nuclear Site Licence No. 31F	
77	Consent to enable the receipt of a single can of plutonium into Sellafield MOX Plant to enable calibration of equipment
78	Consent to start Plutonium Commissioning of Sellafield MOX Plant

TABLE 3

LICENCE INSTRUMENTS ISSUED DURING THE QUARTER

1 OCTOBER - 31 DECEMBER 2001

REF NO	DESCRIPTION
BNFL Drigg - Nuclear Site Licence No. 29A	
	None
BNFL Sellafield - Nuclear Site Licence No. 31F	
371	Agreement to commence active commissioning of Line 3 Vitrification Plant
377	Acknowledgement of the safety case to justify the argon inerting of the B41 waste silo
378	Agreement to proceed with stage 2 of the new Sellafield Organisation implementation programme
379	Acknowledgement of receipt of safety documentation relating to the implementation of the WVP Line 3 safety case
380	Acknowledgement of safety documentation associated with the modifications to the B355 Control Cell Shield Doors
381	Acknowledgement of safety documentation associated with the modifications to the B355 Pour Cell Shield Doors
382	Acknowledgement of safety case to enable extended trial of waste water management of the B38 waste silo
UKAEA Windscale - Nuclear Site Licence No. 46A	
	None