British Energy
PART OF EDF ENERGY

[redacted]
Health and Safety Executive
Nuclear Directorate
Redgrave Court
4S.1 Merton Road
BOOTLE
Merseyside
L20 7HS

Our Ref: NC/AB/BW
Your ref: HPB 71673 R
Unique No: HPB 51132 N

27 November 2009

Dear [redacted]

BRITISH ENERGY GENERATION LIMITED
HINKLEY POINT B POWER STATION – NUCLEAR SITE LICENCE No 62A
Gas Bypass Plant Contamination Event on 16th July 2009

In response to the letter of 16th September 2009 (HPB 71673R) following the Gas Bypass Plant contamination event of 16th July 2009, please find below detailed statements to the issues raised. I have used the numbering as per your letter referenced above responding to paragraphs where a response is requested .

3. In my opinion the above shortfalls contravene site Licence Condition 26 and also the requirements of Health and Safety at Work etc. Act 1974 Sections 2 and 3. The key issue being that the safety of the work activity was reliant on a system of work, which in the event was not properly controlled or supervised. I am furthermore of the opinion that the shortfalls identified are particularly acute in circumstances where contractors are involved with outage work

Detailed responses to the findings of the investigation are given in the responses below. It should be noted that in response to the event a Significant Adverse Cause Investigation (SACI) was carried out and a copy of the SACI report (AR547641 refer) has already been provided under separate cover. The SACI addresses a number of the findings as detailed in the responses below.

4. In view of the above findings, I require you to take suitable and sufficient measures to improve arrangements for the control and supervision of work at Hinkley Point B and in particular the control and supervision of contractors. The improved arrangements should:

- *be based on an analysis of the arrangements for control and supervision relevant to the contamination event on 16th July 2009 at Hinkley Point B and any identified shortfalls;*
- *include measures to ensure that safe systems of work are established and followed;*
- *ensure adequate coordination and leadership of mixed British Energy and contractor work parties;*

British Energy Generation Ltd
Hinkley Point B Power Station
Near Bridgwater
Somerset TA5 1UD

T: +44 (0)1278 654600
F: +44 (0)1278 654610
www.british-energy.com

- *ensure that clear lines of accountability are established between persons undertaking work and British Energy management responsible for control and supervision of work, and,*
- *include measures to ensure that the improved arrangements are followed.*

As a result of generic concerns in regard to the control and supervision of contractors a fleet review of arrangements was carried out and revised procedures are being implemented at all BE sites, as detailed in my letter of 30th September 2009 reference HPB 51117N. The main changes are the enhancement of the Contract Manager role and the introduction of a Field Supervisor role to provide technical supervision. The appropriate Management of Change was raised to cover this role change (as detailed in response to section 6 item h) below). Authorisation of personnel to the Field Supervisor role is already in progress. The process will be covered via changes to the appropriate procedures as detailed in HPB 51117N. An implementation programme has been agreed for all sites with completion at Hinkley Point B scheduled for end of February 2010. It is also intended that a QA Audit and Self Assessment will be carried out of the revised arrangement following implementation.

In addition to the above, the SACI identified the root cause as the lack of control of open hole working. Recommendations were therefore included in the SACI on the Operations Fleet manager to ensure a clear definition of open hole working is adopted and revise the procedure for open hole working to ensure the Company decision making model is utilised effectively. These recommendations are being addressed for the fleet as a whole. In the interim, station procedures have been amended and other measures put in place to address this issue, as detailed in response to section 6 of your letter (see below).

5. NII have written separately to [redacted] *(CNO Region One) noting the above deficiencies and requesting that that the new arrangements for management of contractors that are currently being rolled out across the BE fleet take full cognisance of this event.*

[redacted] will be responding to this point under separate cover.

6. The NII inspections on 22 July 2009 and 18 August 2009 also identified a number of other shortfalls in relation to separate licence conditions and regulations, which I consider should be addressed.

a) The Ionising Radiations Regulations 1999 (IRRs) Regulation 7 require the duty holder to undertake a risk assessment prior to undertaking any new activity involving work with ionising radiation. The assessment must be suitable and sufficient and should identify any measures needed to control exposure. The risk assessment underpinning RVP 3446 was produced before the decision was taken to adopt "open hole" working and there is no evidence to show that this RWP was reviewed in the light of the revised system of work. Had a risk assessment of the work actually undertaken been carried out, the key step of restoring the pressure boundary could have been identified and highlighted in the documentation.

A Corporate assignment (CR 558008) for all AGR sites has been established to ensure that a comprehensive review of radiological risk assessments, RWP requirements and associated ALARP briefs are in place before the next outage period for open hole working; all existing RWPs related to open-hole working have been suspended by the Head of Radiation Protection to prevent inadvertent use in the interim. This radiological risk assessment review will

British Energy Generation Ltd
Hinkley Point B Power Station
Near Bridgwater
Somerset TA5 1UD

T: +44 (0)1278 654600
F: +44 (0)1278 654610
www.british-energy.com

identify all activities where reactor pressure vessel open hole working is to be undertaken with a review and update of the associated RWPs and ALARP briefs for those activities. This work will be completed before the next outage or sooner if use is required, with a target date of end April 2010.

b) IRR Regulation 8 requires, where practicable, that restriction of exposure is achieved by engineered means in preference to safe systems of work and PPE. There is evidence to show that isolation of the gas bypass plant was the preferred option and that "open hole' workinq was adopted only when the presence of CO2 evolution was identified as an additional hazard. However, the vigour with which solutions to the CO2 evolution problem was pursued is questionable and there is no record that the hierarchy of control measures was dealt with explicitly in the risk assessment.

Open hole working processes are required in specific circumstances during a reactor outage in air. As stated above recommendations were made in the SACI to ensure the Company decision making processes are used for such work. The station procedure for open hole working (HINB/DI/POZ/11/5) has therefore been amended to include the requirement for an Infrequently Performed Test and Evolution (IPTE) to be carried out before staring work, all open hole work to be identified by the relevant outage area coordinator and the work identified as a critical task to be subject to a formal pre-job brief. In addition, the requirement for outage area coordinators to determine work involving open-holes will be included in the outage milestone plan and an Outage Open Hole Working Group will be set up during outage periods to oversee all open hole work before the next Outage or sooner if use is required (target date of end April 2010).

c) *Licence Condition 24 requires that all operations which may affect safety are carried out in accordance with written instructions. There were instructions on the work order card regarding the replacement of the valve, but they were flawed. The instructions assume that there is an isolation and requirement to check it. Experience with Reactor 4 was that the valve operating handle had to be removed because of confined space working, which was not factored into the instructions. Finally, the instructions contain an option to fit a blank, which would have been impossible with the inflow of air created for "open hole" working. The work instructions were not taken to the point of work and were not followed. Instruction exists for pilecap "open hole" working and specific pilecap operations, but no specific instructions were available for the open hole operation carried out at the gas bypass plant.*

The shortfall in regard to written instructions for open hole working was considered by the SACI and as stated above recommendations were made for improvement to procedures to address this issue. Application of the IPTE process has been embedded in the station procedures and additional measures put in place as detailed in response to item b) above.

d) IRR Regulation 14 requires training to be given to employees regarding the risks to health caused by ionising radiations and the precautions that should be taken. LC10 requires suitable training to be given. The response of the work team following the ejection of dust into the gas bypass plant area gives some cause for concern. The three people wearing powered air hoods appear to have removed them prematurely and the whole work party waited in the contaminated area for an extended period, rather than escaping to the corridor. There is therefore a shortfall against 1RR Regulation 14 and LC10 concerning training of staff in the response to an airborne contamination event.

British Energy Generation Ltd
Hinkley Point B Power Station
Near Bridgwater
Somerset TA5 1UD

T: +44 (0)1278 654600
F: +44 (0)1278 654610
www.british-energy.com

Training material for C3 working (PMIS code EICCA3 HPB) has been revised to take account of contingency actions in the event of any significant spread of contamination and the production of Information Briefing material for all personnel with C3 roles on PMIS. This revised training will be rolled out prior to outage periods. This event will be specifically referenced as a learning point in these training events.

e) Licence Condition 34 requires that radioactive material is at all times adequately controlled or contained. A quantity of radioactive material was ejected in to the gas bypass plant as a result of this event. Steps should be taken to ensure that a similar event involving the ejection of material from the reactors cannot occur in the future.

The actions and commitments identified in this letter and the recommendation in the SACI are considered to be adequate to ensure that the risk of a similar event in the future is acceptably low.

f) RWP 3446 is only applicable to classified persons, however station records show that non-classified workers received an ALARP brief against RWP 3446 and entered the radiation controlled area under code RWP 3446. Although these non-classified workers were not required to work within the requirements of RWP 3446.

Review of RWPs and associated risk assessments will be completed as detailed above in response to item a) above. As part of this review it is intended that further control measures will be implemented to ensure the demarcation of such areas to exclude non-essential personnel. The ALARP briefs will involve only key personnel but the pre-job briefs may include adjacent working parties to ensure that there is sufficient cooperation between teams close to the point of work.

g) It is stated in letter HPB51102N that at the end of the phase 2 gas bypass plant cleanup programme that this plant area will remain at C2 classification due to the residual activity in inaccessible areas. It is not clear that the implications for nuclear safety caused by this change have been considered, particularly with respect to plant operability and response in an emergency.

As detailed in previous correspondence (HPB 51124N refers), Phase 2 decontamination of the Gas Bypass Plant is complete (with the exception of the removal of asbestos under floor plates). The extent of the area has been reduced as far as reasonably practicable and a new sub-change room has been established within the area to support routine entry and exit. All areas are accessible for plant operators and this has been reviewed with the Operations Department to ensure the appropriate focus on nuclear safety is maintained. An ALARP review has been carried out and it has been concluded that further decontamination (following completion of Phase 2) is not warranted and that the addition measures are adequate to ensure radiological control in the area.

h) During my site inspection visit between 8 and 11 June, I noted that the LC36 management of change arrangements do not appear to have been followed regarding the phasing out of Site Liaison Officers at Hinkley Point B (NII Action HPB 09/8.5 refers). As a result, there is a potential for changes to the arrangements for the management of contractors during the 2009 R3 outage to have been compromised.

The Management of Change for the phasing out of the Site Liaison Officer role (HPB/MOC/297 refers) has been provided to [redacted] in response to an action from his site inspection visit (AR 542458 refers).

British Energy Generation Ltd
Hinkley Point B Power Station
Near Bridgwater
Somerset TA5 1UD

T: +44 (0)1278 654600
F: +44 (0)1278 654610
www.british-energy.com

British Energy
PART OF EDF ENERGY

7. In order for NII to monitor your progress to address the matters identified in this letter, please supply a copy of your plan to implement the corrective measures you identify as necessary by 30 November 2009. You are also invited to attend a meeting in Bootle to explain the event, the lessons learnt, your proposed corrective actions and to provide a personal commitment to remedy the identified shortfalls, at a date to be arranged.

The actions and commitments identified in this letter detail the recovery programme from this event. The majority of the actions are now complete. The remaining commitments and timescales for completion are included in the attachment to this letter.

As requested I have arranged to attend a meeting at Bootle on 14th December 2009 to discuss the event, lessons learnt, proposed corrective actions and to reinforce my personal commitment to remedy the identified shortfalls.

In addition to the above, in order to ensure embedding of the proposed improvements, I have asked that a review of these improvements be carried out by SRD and this has now been included in the SRD Site Inspector's inspection schedule.

If you require further information please contact [redacted] on [redacted] if you require any further information.

Yours sincerely

[redacted]

Enc

British Energy Generation Ltd
Hinkley Point B Power Station
Near Bridgwater
Somerset TA5 1UD

T: +44 (0)1278 654600
F: +44 (0)1278 654610
www.british-energy.com

No	Commitment	AR Reference	Due Date
1	Complete implementation of the Field Supervisor role at station	575948 / 01	February 2010
2	Carry out a QA audit of the Field Supervisor role following station implementation	575948 / 02	March 2010
3	Carry out a Self Assessment of the Field Supervisor role following station implementation	575948 / 03	September 2010
4	Review and update of RWPs/risk assessments for open hole working	575948 / 04	April 2010
5	Include a milestone in the pre-outage plans for area co-ordinators to define when open hole working will be used	575948 / 05	April 2010
6	Produce Information Briefing material for all personnel with C3 roles on PMIS	575948 / 06	January 2010

British Energy Generation Ltd
Hinkley Point B Power Station
Near Bridgwater
Somerset TA5 1UD

T: +44 (0)1278 654600
F: +44 (0)1278 654610
www.british-energy.com