File

DSG

cc: Press Office

Cab Affairs

8 April 1981

The Prime Minister has seen the enclosures to your letter of 7 April about the Windscale review.

She is content that the Answer and Press Notice should be issued as proposed.

M. A. PATTISON

J. V. Price, Esq.,
Department of Energy.

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DEPARTMENT OF ENERGY
THAMES HOUSE SOUTH
MILLBANK
LONDON SW1P 4QJ

01-211 3000
01-211 4953

FROM THE
PARLIAMENTARY SECRETARY

Prime Minister

HSE give Windscale a good overall report, whilst identifying some scope for further improvement. Their report will be published on Thursday. Mr Lamont intends to draw attention to this by means of the attached Press notice and P.Q. Content? MF 7/4

Yes

Tim Lankester Esq
10 Downing Street
LONDON SW1

7 April 1981

We spoke earlier this afternoon about our intention to draw Parliament's attention to publication by the Health and Safety Executive of the review of safety management arrangements at Windscale undertaken by a Review Team. You may recall that this Review mounted following a number of safety incidents at Windscale culminating in the identification in March 1979 of a leak of highly active radioactive liquid from a building at Windscale. This particular incident was the subject of a separate thorough NII investigation and report published and reported to Parliament last July. I attach a draft Departmental press notice and one which the HSE propose to put out which are self explanatory over the outcome of the recent Review.

As I mentioned, we would like to announce publication of the review at 2.30 on Thursday since the review itself is a fairly substantial document. I understand that your own press office cleared this with your Private Office last Friday. I hope that you can accept this (we will, of course, provide briefing for question time).

yours

Jonathan Price

J V PRICE
Private Secretary

DRAFT

Reference No 63

April 9, 1981

(Out of hours: 01-215 7877)

## REPORT ON SAFETY AT WINDSCALE

Mr Norman Lamont, Parliamentary Under Secretary of State for Energy, today welcomed the Health and Safety Executive's authoritative reassurance that British Nuclear Fuels Ltd's Windscale works "should not be regarded as a dangerous place at which to work or near which to live".

Replying to a Parliamentary Question from Mr MP, Mr Lamont told the House of Commons that the Government attached great importance to safety at Windscale and had already held discussions with both HSE and BNFL about the HSE report on Windscale safety*, which is published today.

Mr Lamont said that the company had implemented many of the HSE's recommendation already. He said, "I am satisfied that such of the report's recommendations as have not so far been implemented will be implemented by BNFL as a matter of high priority and that HSE have devised effective arrangements for the independent monitoring of this follow-up to the report. I have also full confidence in the ability and capacity of BNFL's and Windscale's management to control effectively the safety operations at the Windscale site."

The full text of Mr Lamont's Parliamentary Answer is attached.

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*"Windscale: The Management of Safety", published by the Health and Safety Executive.

Text of Mr Lamont's Parliamentary Answer

"The Health and Safety Executive (HSE) have today published the Review Team's full report. I have arranged for copies to be placed in the Library of the House.

"I welcome this important report which describes the very thorough review conducted by the Team into all aspects of the arrangements for the management of safety at Windscale, including procedures for design safety assessment and those for surveillance of safety in operating plants and during maintenance. It is comprehensive, constructive and balanced, covering the whole spectrum of safety organisation from management systems down to shop floor safety procedures. It makes clear that BNFL and their employees at all levels co-operated fully with the Team and that throughout the Review a constructive dialogue was maintained between the Team, the company, the NII and the Radio-chemical Inspectorate.

"The report shows that serious deficiencies have existed in the past and that it has taken time to overcome these. However, in the course of their review the Team identified a number of important areas where safety systems and procedures still needed improvement and managerial responsibilities required clarification. Accordingly a series of detailed recommendations have been made. Of these the main matters identified as needing attention relate to the review and up-dating of procedures; the strengthening of technical support groups on the site; the developing and strengthening of the quality assurance organisation; and the implementation of a particular system of safety audit.

"Because the Government attaches great importance to safety at Windscale I have discussed the report and its recommendations with the HSE, together with the Executive's plans to follow up the report's conclusions. They have assured me that, as the report records, BNFL's management at Windscale and the company's Risley headquarters have made strenuous efforts to improve arrangements for achieving a high standard of safety. Some of the conclusions reached had already been considered by Windscale's management and were being implemented while the Team were at work. The Team communicated others to the company and the NII as they arose during the course of the Review. Consequently most of the report's recommendations have been, or are in the process of being, implemented. The HSE are satisfied with the company's plans for the orderly implementation of the remaining recommendations and will maintain close contact with the company on their progress.

"I have also discussed the Report's conclusions and recommendations with BNFL, emphasizing the importance the Government attaches to early implementation of these and the maintenance of effective control over safety at Windscale. They too accept the report as fair and constructive and have thought it right to publish their formal response to the report. I welcome this and have arranged for copies

"As to the future BNFL recognise the importance of line management responsibilities for safety at all stages of a plant's design, construction, operation and maintenance and that primary responsibility for the safety of all thei operations rests with the company. Their policy is one of positive self-regulation in safety matters, rather than reliance on meeting conditions imposed by regulatory bodies. In developing and extending this policy they will continue to take full account of the Review Team's recommendations particularly in relation to internal safety audit systems, the strengthened role of the Directorate of Health and Safety and the provision of technical support. They have assured me that they see no difficulty in providing adequate resources for this purpose.

"I understand that the HSE have proposed, as an important part of the follow-up, that BNFL shall provide the Executive, in six months time, with a full report on progress towards implementation of the Review Team's recommendations. This will be published. At the same time, the NII, who attach great importance to their surveillance role at Windscale, will take full account of the Review Team's findings during normal inspection work relating to the site's activities.

"I draw attention to the HSE and Review Team's respective conclusions that Windscale should not be regarded as a dangerous place at which to work or near which to live and that they see no reason, on safety grounds, why the programme for the development of the Windscale site should not continue. The Government welcomes this authoritative reassurance. I am satisfied that such of the report's recommendations as have not so far been implemented will be implemented by BNFL as a matter of priority and that the HSE have devised effective arrangements for the independent monitoring of this follow-up to the report. I also have full confidence in the ability and capacity of BNFL's and Windscale's management to control effectively the safety of operations at the Windscale site."

IN CONFIDENCE

BEFORE 1430 HOURS - 9 APR 1981

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April 9, 1981

REVIEW OF SAFETY MANAGEMENT AT BNFL'S WINDSCALE WORKS PUBLISHED

A review of safety management at the Windscale works of British Nuclear Fuels Ltd (BNFL), Cumbria, is published in a report* by the Health and Safety Executive (HSE) today.

It was carried out by a three-man team appointed by the HSE, which endorses all the conclusions and recommendations (annexed to this release).

The review was announced by the Executive in July 1979 following concern about the number of incidents with safety implications which were being reported from Windscale and, in particular, two incidents** which involved major releases of radioactive materials into the ground. The team had the following terms of reference:

- to review the arrangements for the management of safety at the Windscale site of BNFL;
- to review the procedures for surveillance of safety in operating plants;
- to review the procedures for plant safety assessment;
- to report.

In a foreword to the report, the Health and Safety Executive says: "The report shows that at the time the Nuclear Installations Inspectorate of HSE were given responsibilities for Windscale in 1971 the standard of the plants there had deteriorated to an unsatisfactory level. It also shows that the management of BNFL, both at Windscale and at the company's headquarters at Risley, have been making strenuous efforts to improve the arrangements for achieving a high standard of safety.

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* 'Windscale: The Management of Safety', price £2.50, may be obtained from the Directorate of Information and Advisory Services (IAS5), Baynards House, 1 Chepstow Place, London W2 4TF. Tel: 01-229 3456.

** 'Report on the silo leak at Windscale', price 60p, and 'The leakage of radioactive liquor into the ground, British Nuclear Fuels Limited, Windscale, 15 March 1979', price £1.25, may be obtained from the Directorate of Information and Advisory Services (IAS5), Baynards House, 1 Chepstow Place, London W2 4TF. Tel: 01-229 3456.

We believe that the company will be prepared to implement all the recommendations in the report. Indeed, since the review involved a dialogue with BNFL staff, including members of senior management, many of the changes which the team considers to be necessary were put in hand and, in some cases, completed before the end of the review.

The report includes many recommendations but we would not like this to give the impression that we regard Windscale as a dangerous place at which to work or near which to live. In our view, the company shares with the best of British chemical industry the merit of devoting considerable attention to health and safety matters at board level. This attention must be maintained and reflected in managerial emphasis at all levels.

This is particularly important because the company is facing a very substantial programme of expansion and replacement which will also involve the decommissioning of obsolete plants. The report concludes, that provided the changes which the team recommends are made, the company has the capacity to control these activities effectively. There is no reason on that ground why the development programme should not proceed.

We would like to emphasise the importance of ensuring that the various health and safety services on site and at the headquarters have a sufficiently high status and sufficient resources to achieve the company's objectives. Some of the team's recommendations imply increases in these resources and we believe that the company needs to make these additional resources available as a matter of urgency.

We must also emphasise that the responsibility for establishing adequate arrangements for health and safety, and for a system of audit to ensure that it is working effectively in practice, rests with the management of the company. They are not to rely for this on the Nuclear Installations Inspectorate of the Executive. Our responsibility is providing an independent check that the company is fulfilling its own responsibilities.

The Executive has asked the Chief Inspector of Nuclear Installations to follow up the report and to ensure that an adequate response to it is achieved by the company".

NOTE TO EDITORS:

The review team, appointed by the Health and Safety Executive, comprised two senior members of HM Nuclear Installations Inspectorate, and a former Chief Scientific Officer of the Department of the Environment. They were

# WINDSCALE: THE MANAGEMENT OF SAFETY

## Conclusions and Recommendations

Conditions at Windscale are changing rapidly as a consequence of the efforts of management to improve plant safety and reduce the exposure of workers to radiation. Changes in staffing levels and organisation continued throughout the course of our investigation and we found it necessary to revise our views on some matters as we went along. Some of the conclusions we had reached had already been considered by Windscale management and were being implemented. Others we communicated to them and to NII, aiming at a dialogue and discussion of our views and steady implementation rather than presenting in a report a sudden catalogue of recommendations. Consequently most of the recommendations we have made in this Report have been, or are being, implemented. Some minor recommendations, which will be dealt with in the course of the reviews we recommend, have not been brought forward.

1 By the early 1970s the standard of the plants at Windscale had deteriorated to an unsatisfactory level. We consider this represented a poor base line from which to develop high standards of safety.

We are strongly of the opinion that such a situation should not have been allowed to develop, nor should it be permitted to occur again.

The present Company policy and the licensing arrangements of the NII should provide the necessary safeguards. (5.1-5.4)

2 By 1974 a significant effort was being made by BNFL to improve, refurbish and replace many of the facilities on the site while maintaining production; a decision which appears to us to have been correct. These and other problems fully stretched the resources of the site. (5.7, 5.8, 5.10)

Much has been accomplished in recent years: there have been many improvements in plant safety, average radiation dose levels have been reduced and production has been maintained. (5.10)

4 In reviewing the arrangements for the management of safety at Windscale we found that although earlier re-organisations have reduced the direct span of control of the North West Area General Manager, the existing duties of the post, and the extensive programme of work now being carried out and planned, will continue to impose a significant managerial load.

(a) The Company should consider whether the present direct span of control associated with this post should be reduced. (6.10)

(b) The organisation of the service departments, including the Research and and Development Department, is generally good with sufficient resources for the effective conduct of their work. (8.8.8.10.8.20)

5 Works Managers, and their equivalents, are responsible for the surveillance of safety of the plant or group of plants in their designated areas of responsibility. They should exercise control over all matters in their area, which must be clearly defined, and ensure that appropriate procedures and instructions are laid down. (7.2)

(a) We found that instructions as to the full extent of their responsibilites were not always clear and comprehensive and we were not convinced they were clearly understood by Works Managers and their staff or were being adequately performed. These responsibilities should be defined in formal instructions to management. (7.6. 7.8)

(b) In particular, we consider that there should be clear instructions stating that Works Managers are responsible for ensuring that all their equipment, plant and buildings are on appropriate maintenance schedules and that the scheduled work is done. (8.3)

At the same time we came to the view that resources available to Works Managers were not sufficient to allow them to deal adequately with all their responsibilities We note that the Company had already begun to appoint technical support staff to assist some Works Managers.

(c) We welcome these actions and wish to see these technical support groups to Works Managers brought up to strength as soon as practicable. (7.9)

The arrangements for the control of operations at the reactor plants already include a technical support section. However, progress on the comprehensive safety review to provide information on an extended period of operation of the Calder reactors has been slow.

(d) We consider BNFL should devote sufficient resources to ensure the timely completion of this review. (7.12)

6 Our analysis of Windscale incidents, some 30 per year since 1976, shows that most have occurred as a consequence of simple failures during the execution of a routine task, of which many tens of thousands are performed annually. (4.9)

About a quarter of the incidents reported resulted in the exposure of workers to levels of radiation exceeding statutory limits laid down in the nuclear site licence, pratically all of them being only slightly in excess of these limits. No incident has involved any member of the public. (4.5)

A few incidents, including the two major leakages of radioactivity into the ground, have been a cause for concern to us because of the implications of multiple failures of safety precautions. There is evidence of a failure to learn from previous events which should have been recognised as indications that these incidents might occur. (4.5, 4.6, 4.7)

(a) We conclude that many of the incidents might have been prevented, or the risk of their occurrence significantly reduced, had formal arrangements been in existence for the regular updating and review of procedures and compliance with them. (4.7)

(b) BNFL should lay down clear instructions for this purpose. The task should receive a higher priority, and BNFL should provide more resources (10.26)

7 The new procedures introduced at Windscale for dealing with plant and process modifications which are judged to affect safety significantly seem to us to be good. We consider there should be some complementary procedures for dealing with lesser modifications which are judged not to affect safety in plant or operations, bearing in mind that throughout industry there have been examples of apparently trival plant modifications resulting in serious incidents. (10.24)

(a) All modifications, however minor or apparently trivial, should be covered by an appropriate procedure which subjects them to examination and confirms that the modified plant is safe to operate. Such procedures should be introduced as soon as practicable. (10.24, 10.25)

A systematic approach for dealing with significant modifications at the design and, more especially, at the construction stage of plant is also important. The arrangements for the control of plant design and construction are changing. (9.4, 9.5)

(b) We consider that in implementing the new arrangements the responsibility for safety must be clearly defined at all stages of a project. Appropriate procedures should be laid down to ensure that all modifications during design and construction which may affect safety are reviewed. (9.5, 9.6)

8 Rules and procedures for the control of work at Windscale are contained in sever sets of documents. We found it difficult to determine the importance to safety of the system of Works Notices and we found some overlap in the content of House Rules, Standing Instructions and Plant Operating Instructions. (10.1, 10.3, 10.8)

(a) We consider that there should be clear definitions of the scope of the various series of documents and that the simplification of the various instructions should be an important part of the work of reviewing them. (10.8)

(b) We consider that information concerning safety arrangements which are to be observed by all employees should be contained in instructions issued to each employee on a personal basis. (10.3)

(c) We concluded that the system for the control of criticality is good and that it contains the elements of a quality assurance system. (10.12)

(d) We found that in some processing plants limits on some important parameters had not been specified. We consider that such limits should be established, based upon systematic safety assessments.

It was clear to us that insufficient attention has been given to instructions for dealing with reasonably forseeable abnormal plant operating conditions.

(e) We recommend that the scope of plant operating instructions in this area should be reviewed as soon as practicable. (10.15)

(f) In particular a procedure should be established for providing instructions for unusual planned operations if a significant hazard may be involved. (10.10)

9 All equipment provided to secure the safe operation of plants is required to be regularly tested, inspected and maintained by suitably qualified persons in accordance with an Engineering Scheduled Maintenance Scheme.

(a) We found the practice employed at the Calder reactors to be appropriate and generally consistent with that at other nuclear power stations in the UK. (10.16)

(b) The scheduled maintenance of instrumentation on the site generally is soundly based. (10.18)

(c) The situation was less satisfactory in the case of mechanical, electrical and civil works; for civil works we found no laid-down systematic requirement for the inspection of buildings and structures such as pipe-bridges and supports. (10.18)

(d) We recommend that all maintenance work should be the subject of central review and direction of its scope and frequency; greater use should be made of assessments of the reliability requirements for safe operation. (10.18)

(e) To assist in this a comprehensive system of analysis of defects and failures should be introduced for all plants as soon as practicable. (8.6)

10 The procedures for granting clearance for work involving risk to health and safety provide for the issue of Clearance Certificates which specify the precautions to be taken. These may be supplemented by Access Certificates if radiological protection measures are also necessary.

We consider that the requirements of the Clearance Certificates in use in chemical plant operations were not sufficiently comprehensive and we are pleased to see that BNFL are making the necessary improvements. (10.20)

11 We found the arrangements made to deal with emergencies that may occur on the site, including the premises of the UKAEA, and for dealing with potential off-site consequences, were well conceived and adequate. (10.13)

12 (a) We found the provisions for training, to which the Company attaches considerable importance, to be generally good and there was a clear understanding of the safety precautions required for radiological protection. (8.25, 8.26, 8.28, 8.29)

(b) We draw attention to other factors that may help in the training and retraining of staff. (7.13, 8.31, 8.32, 8.33)

(c) Because of the increase in staff at the Risley design offices the Company should continue to give close attention to its training requirements. (9.

13 (a) We consider that an effective system of independent audit of safety is essential if high standards of safety are to be achieved and that an appropriate system should be implemented as a matter of priority. Our recommendations in this connection are fundamentally the same as those of the Fleck Committee set up following the incident at Windscale in 1957. (6.5, 6.

(b) The Directorate of Health and Safety should be strengthened so that its surveillance of the extent and content of such audits and other related functions, can be fully implemented. (6.7)

14 During the whole of the life of a nuclear plant from design to decommissioning all activities influencing safety should be governed by appropriate formal specifications, standards, codes of practice, and written procedures. Quality Assurance is the system designed to provide assurance to management that these have been complied with. Since inadequacies in procedures and their implementation have often contributed to causes of incidents on the site the adoption of a Quality Assurance programme would seem to offer a promising way of reducing their frequency. (9.9)

We strongly recommend that the Quality Assurance organisations should be developed and brought up to strength as soon as practicable. (8.5) (9.10)

15 To carry out the necessary safety assessments of the design, construction and commissioning of new plant and to assist in the review of safety of operating plants it is important to have appropriate technical and safety specialist support. We found that, prior to 1974, safety reviews of operating plants had not been made for many years and these reviews became the main task of the Safety Assessment Group then established at Windscale. Their reports provided a good response to the needs at that time. (11.7)

(a) We consider these early reports should now be updated and improved as soon as practicable. General instructions should be laid down covering the frequency and the circumstances under which such reviews should be undertaken. (11.8, 11.9)

To provide advice on safety to plant designers and operators and in response to the requirements of the nuclear site licence, BNFL has established a Safety Committee and supporting sub-committees. (11.2)

(b) We consider that this system fulfills a useful function and provides a sound source of advice to management. However, it does not provide the independent audit function which we have strongly recommended. (11.4, 11.10)

We recognise that some of the recommendations we have made will require BNFL to provide additional resources for their implementation. The main matters requiring attention are the review and updating of procedures; the strengthening of technical support groups on the site; the developing and strengthening of the Quality Assurance organisation; and the implementation of a system of safety audit. We do not think the resources to accomplish these tasks will be large in relation to the overall commitments of BNFL, but it is important that they be made available.

Because incidents have resulted from weaknesses in procedures, or in complying with them, many of our recommendations refer to ways in which procedures can be improved. However, rules alone, no matter how complete, are not sufficient; they have to be approached with the right attitude and conscientiously applied if safety is to be achieved. Morale and confidence in management are also important factors and we were encouraged to find these evident throughout the workforce. This should provide the conditions under which higher standards of safety can be achieved.

It will never be possible to eliminate entirely the occurrence of incidents, especially those in which human error or poor judgement play a contributory part. There can be no absolute assurances that incidents of the same kind as have previously been reported from Windscale will not occur in the future. Nevertheless we believe that the rate of occurrence and the potential consequences can be reduced by careful adherence to well-conceived safety precautions, and in particular by careful attention to the preparation of, strict compliance with, and regular review of safety procedures.