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Full extent of Windscale fire revealed

1957 contamination was worse than 3 Mile Island

By Roger Highfield, Technology Correspondent

THE FIRST full details of the Windscale accident, made public today, reveal that the Macmillan Government suppressed a report on one of the world's worst nuclear accidents which spread contamination across England, Wales and North-

ern Europe.

A fire at the Windscale military reactor in October 1957 released a cloud of radioactive contamination which, though small in comparison with that sent up by the explosion at Chernobyl in April 1986, was much more life-threatening than the fallout caused by the meltdown at Three Mile Island in the United States.

Milk was banned from more than 200 square miles around the plant in Cumbria and an evacuation of local people was considered at the time.

The National Radiological Protection Board estimates that up to 33 deaths may have resulted from the fire.

There have been several claims to this effect, the first of which was the death in 1960 of a local boy, two-year-old Simon Boyd, from acute myeloid leukaemia, an illness caused by radiation.

Today, at the Sellafield complex, Windscale Pile 1—where the accident happened—is sealed like a tomb, just as it was left when it was shut down in 1957.

A United Kingdom Atomic Energy Authority spokesman said yesterday it was only possible to enter the pile wearing protective clothing, and then only for a short time.

A clean-up will start this year that will cost tens of millions and take 10 years.

Radioactivity of fuel debris inside Pile 1 is now only one hundredth of what it was in 1957.

As a result of the 1957 fire some 17 tons of melted and partly-burned fuel, of the original complement of 180 tons, still lie in the centre of the No 1 reactor pile, and highly radioactive debris is scattered around both the plant's reactor piles.

There are fears that the pile could catch fire because there remains an unknown quantity of energy stored in the blocks which must be released.

The area around the pile has been used since 1957 as a workshop.

Macmillan feared effect on US

At the heart of the cover-up in 1957 lay Macmillan's fears that the report's conclusions—that the accident was caused by faulty judgment by the staff and faulty instruments—and a reference to a previous accident in 1952, would mar attempts to co-operate with the United States in developing nuclear weapons, shake public con-

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reactor built in 1948 to make plutonium for nuclear weapons.

As a result, a "less technical version" of the accident, contained in a White Paper published in November 1957, was given of the report by the Committee of Inquiry led by Sir William Penney from the Atomic Weapons Research Establishment.

Official documents released today, filed under the quaint euphemism "Tube Alloys", give the contemporary account of the 1957 fire in the Windscale nuclear reactor and contain a letter from the Prime Minister's office to the Authority on Nov 11, 1957, marked "Top Secret" which said: "It is extremely important that we should make sure that there is no leakage of the Penney Report."

"I hope that you will therefore arrange for all prints or other copies of this to be obtained from the Stationery Office and for the printers to destroy their type."

The documents also show security considerations were not paramount.

A letter from the Ministry of Defence to Sir William on Oct 29 said: "There is no security objection to the publication of this report in its present form."

Indeed, the board of the Atomic Energy Authority, though it had grave misgivings, decided at a meeting on Oct 28 that the Penney report should be published.

Macmillan overruled that decision because of his concern about relations with the United States. The Penney report went to him on Oct 28.

A telling note scribbled by Macmillan on the covering memo shows it troubled him.

"I have read all this. It is fascinating. The problem is two-fold:

- What do we do? Not very difficult.
- What do we say? Not easy."

The real reasons for the bowdlerisation of the Penney report are revealed in a report

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Windscale cover-up

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security objection to the publication of so much technical detail, there would still remain the danger that it would be quoted out of context and misused in other ways by hostile critics.

"In particular it would provide ammunition to those in the United States who would in any case oppose the necessary amendments of the McMahon Act which the US authorities proposed in order to make possible the desired degree of closer collaboration between the two countries in the military applications of atomic energy.

"It would also adversely affect the collaboration between the two countries in other defence fields."

At the time the Americans were concerned by exchanges of nuclear information between Britain and the Soviet Union.

They were concerned by the ability of Britain to keep atomic secrets.

A document on Oct 30 showed that the Atomic Energy Authority was extremely concerned by Sir William Penney's original report. It said:

● It could reasonably be inferred from the Committee of Inquiry's report that this accident might well have been very much worse and that a similar or worse accident might have occurred upon a number of occasions during the last few years.

● It would also be clear to any reader that this accident, or any comparable accident which might have occurred earlier, could be directly attributed to serious defects in the Authority's organisation and to equally avoidable defects in the instrumentation of the Windscale piles.

Here the Penney report said: "A major technical defect contributing to the accident was inadequacy of instrumentation for the safe and proper operation of a release [of energy]."

And Penney's committee said that the absence of an operating manual for such releases "must be regarded as a serious defect".

All the operators had to guide them was a "clearly inadequate" one-paragraph note, written two years earlier (Nov 14, 1955) by the manager of the pile.

"The evidence which we received revealed deficiencies and inadequacies of organisation," said the Penney report, which described the division of responsibilities between staff and their organisation and said "one of the lessons of the accident is that the Windscale organisation is not strong enough to carry the heavy responsibilities at present laid upon it."

● Publication of the report would severely shake public confidence in the Authority's competence to undertake the tasks entrusted to it and would inevitably provide ammunition for all those who had doubts of one kind or another about the development and the future of nuclear power.

The Authority's document said: "It is important that there should be no apparent attempt to gloss over the facts."

"Any expressions of regret

must be so worded as to suggest not mere polite compliance with convention, but rather, the genuine regret of the Authority, and must be accompanied by a forceful statement of intent to take steps to ensure that the state of affairs which had led to the present incident would be speedily and effectively amended so that nothing similar could ever happen again."

The recommendations of the Committee of Inquiry were dropped from report of the committee in the White Paper and mostly incorporated into memos accompanying the paper written by Sir Edwin Plowden, chairman of the Authority, and the Prime Minister.

● The Authority said it was important to explain that a similar accident could not occur at the plutonium power producing reactors at Calder. This was added to the White Paper.

It seems that even Sir William was not entirely happy with the remit of his Committee of Inquiry, which was a technical committee rather than a disciplinary one.

"We made a mistake in imagining that a committee of inquiry into an accident could avoid being disciplinary as well," he wrote.

He was probably sensitive to articles in the press which speculated that his report would blame individual members of the Windscale staff.

The papers include details of arrangements for a visit by a team of US atomic energy experts who were clearly concerned at the implications of the fire for their own nuclear weapons programme.

One document says it was to be made clear to the US visitors that "the discussions are taking place so that we can make available to the USA more detailed information than that included in the White Paper."

The information was to be regarded as "absolutely confidential".

Concern about relations with the US in connection with the safety of nuclear reactors had been expressed at a Cabinet meeting less than four months before the Windscale fire, when plans were raised for the US nuclear submarine Nautilus to visit Britain as part of the exchange of nuclear information.

Mr Macmillan told the Cabinet that proposals for an arrival at Portsmouth, which had not been cleared with the Atomic Energy Authority, were "unfortunate".

He said there were "some grounds for believing that, if the ship was allowed to come to Portsmouth, American interests would exploit the visit to argue that, although we were not prepared to establish our own nuclear reactors in centres of population, we were ready to accept an American reactor in a busy port, thus tacitly demonstrating that the American reactor was safer than the British reactor".

The Cabinet agreed that the Atomic Energy Authority and the Admiralty should consider the possibility of the Nautilus being received at Portland to avoid main centres of population.

Under the 30-year rule, the Public Record Office will make papers available for inspection at their premises in Kew, West London.

Mr Corner, said that once the Attlee government decided in 1945 to go for plutonium production speed of construction took top priority.

When it came to setting the limit on radioactive contamination of milk, one of the scientists wrote "in making our

duction of certain other materials and this would certainly have an adverse effect upon more advanced development

ated with this release of energy the pile was annealed from time to time—heated above its normal operating temperature to

A previous estimate, based on the release of iodine and a little radioactive caesium, put the figure at 20.

stable of Cumberland that he might have to evacuate people from the area.

Fatal cancers