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DEFENSE OFFICE OF PREPUBLICATION AND OFFICE OF SECURITY REVIEW
Interview with

NO CLASSIFIED INFORMATION FOUND

Sir William Penney Jun 21, 2017

by Alfred Goldberg

June 19, 1963

Q. When was the decision made to develop an atomic bomb?

A. I don't know precisely. I know that there was a decision and that Attlee made it. We didn't make any move at all on weapon development until there was a decision. There was a hiatus after the war because it was the policy of the Government to work for a system of international control. In our program we were working towards building and operating reactors, and towards plutonium, but this work was neither military nor civil. The Government thought it was absolutely right in carrying forward this program. On the military side, it was at least two years before we got started. I wasn't given any specific written indication of a decision; Portal simply said that the PM had said that we had to do some of this work. That the decision didn't come until late 1947 or early 1948 didn't delay us.

Q. When was the decision made to produce an atomic bomb?

A. The two things --development and production-- went together. The intention was to make bombs. If you are making tanks or guns you can talk about development and production as two different things, but if you are making nuclear warheads the two are really synonymous. It all went along together. There is the matter of bomb technology, it is true. The warhead to be rested on the ground is not quite the same as the one that is going to be dropped from an airplane. The casing, fusing, arming, storing, etc. might be different.

Q. Did the military services state requirements for atomic weapons prior to 1952?

A. There was pressure from the military for atomic weapons. It was different from the usual military requirements because they had no experience in the field. There was a great deal of give and take between the military technical people and us. It came down to their taking what they could get. They had to have requirements on the operational side. They had also to state requirements on the technical side of construction.

Q. What would have happened to the atomic energy program had it been decided not to develop and produce atomic weapons?

A. The military side gave tremendous impetus and urgency to the program. It made it possible to get things done more quickly than would have been possible otherwise. We always regarded the Calder Hall reactor as dual purpose --to produce plutonium for use in weapons and to generate electricity. There is no phase of the program that is completely military. We looked in two directions from the start. The thing that surprised us was the civil side came on so quickly. The military program brought priorities and schedules and carried the program with it. If there had been no civil side at all to the program we could not have gone as quickly as we did. The civil side helped to attract to the program a lot of people who thought it a wonderful effort. It had a tremendous effect on the staff and the way they reacted. We had a much better staff than we could have had without the civil side.

- Q. Did the military services have any role in the decision to develop the bomb?
- A. I believe so, but I think Attlee and Portal would have the answers.
- Q. Was there any assistance from the United States in the development of the bomb?
- A. After the separation we had absolutely no help at all. The McMahon Act stopped that. We had, of course, people who had been working in parts of the project in the United States. On the production side we had to work it out for ourselves. The American scientists behaved loyally. There were some very limited authorized areas of exchange of information but this did not affect the design of bombs and the production of materials at all.

We were always talking about reviving cooperation with the United States. We were up against the impasse of the McMahon Act which was a complete stopper to us. We thought at the time that the most critical material was going to be uranium. In connection with any agreements with the United States arising out of our control of uranium supplies, we felt that any agreement for collaboration should not put us under U. S. dominance as had been the case during the war. We felt that we had to have our own national project --both military and civil. We were determined not to go back to the wartime type of collaboration. In our thinking, the civil side was always an important part of the program. It was not true that we got any answers or help from the Americans on the warhead aspects of the program or on the production side of fissile material.

I think that both Lord Cherwell and Lewis Strauss were influential chiefly in political matters rather than technical. Political problems had technical connotations, of course. I don't believe that Cherwell and Strauss had much contact at all before Strauss became Chairman of the AEC.

Q. Did the Fuchs case play an important part in nipping the possible rapprochement between Britain and the United States in 1949?

A. It is my impression that the Fuchs case did play an important part.

Q. Did Britain put pressure on the United States in 1948-49 for atomic information in exchange for agreements on allocation of uranium?

A. As far as I know it wasn't put bluntly between governments the way Truman said in his book. If done at all, it was probably informally over cocktails or something of the sort. Both countries were very worried over the sources of uranium. Large sums were spent on uranium surveying. It was a major item.

Q. Were major decisions on bomb-carrying vehicles postponed pending the development of the bomb?

A. As far as I know, no. That would be primarily aircraft, of course. We didn't have to make changes in the bomb because of the aircraft. We designed something and stuck to it.

Q. Did the explosion of an atomic device by the Russians in 1949 affect the British program?

A. We knew it would come, but it was a couple of years earlier than we had thought and to that extent it was very disturbing. To some extent we were prepared, because we had no doubts that they would succeed. It didn't really affect the program. The big political events affected us because they affected the Government. They influenced such things as the allocation of money and resources and the setting of priorities.

Q. Was there much time between development of the device and testing it in 1952?

A. We lost no time at all in testing. The whole thing was on a tight schedule and we were on schedule. The dates set up by the Advisory Committee were the ones we thought we could meet. Hinton and I probably set the dates. There is hardly any paper about this sort of thing. Portal probably wrote a letter saying we can do it by a certain date. We probably didn't have a definite schedule until late 1949. That would be about the earliest.

Q. Did the American offer of test facilities in 1952 contain security restrictions that were unacceptable to the British Government?

A. I don't think that we ever seriously considered testing in the United States. Consideration of it probably never got beyond the informal discussion stage. We had to select a site, and you don't make arrangements in a month or two.

Q. When was the atomic energy program given top priority by the Government?

A. We had priorities from the start. I was given a large armaments establishment to work in. I think the people in the know felt they had to get on with the program. It was probably in early 1948 that the first priority was given. I think that we had in mind the possible necessity of having to do a weapons program, but the program we actually had under way on the reactor side gave us the capacity to do it. We felt principally that we must start a program to get into atomic energy, and later the weapons side became inevitable. In 1946 we had begun with research in atomic energy, and on building reactors, but the international

control plan on the military side was still under consideration and we didn't know what was going to happen. We would have been happy to forego an atomic weapons program if international control had been achieved. We might have gone a little faster from a purely technical standpoint if we had had to. But given our exhausted national condition, we went as fast as we could.

Q. Was there pressure by scientists to get the program going?

A. I think the answer is no. Nearly all the scientists felt at the end of the war that they had done their stint and shouldn't have to do any more. Those interested in atomic energy had switched their interest to the civil side. They felt that it was the duty of the Government to go ahead with an atomic program. I think that the leading scientists were quite sure that the Government was right to go into atomic energy. They had no doubt that atomic energy had changed the military situation and that it would change the civil situation. Therefore, they believed, the research and development program should go ahead. There was no doubt in our minds that this was a tremendous thing and that we must get into it. There was unanimity on the program. The differences of opinion came on whether to make the bomb and how long we could take to make the decision. On atomic energy there was unanimity.

Q. Was there any dissent on the decision to make the bomb?

A. There was near unanimity on the decision to develop the bomb. The thinking at that time was that we needed it for defence in a dangerous world. The scientists were agreed with the political leaders in this. We remembered that we had been left all on our own against Germany in 1940. We didn't know the future. We thought we might have to do it again.