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72736

June 1, 1953

MEMORANDUM for Mr. Robert Cutler

Last week we discussed briefly the reasons for our recent request for authorization to expend fissionable material in an additional shot at the Nevada Proving Ground. I think it would be useful to you to state these reasons more specifically, and this is the purpose of this memorandum.

As you know, following confirmation of certain principles of design in the Ivy Operation last November the Atomic Energy Commission proposed and the Department of Defense accepted several proposals for development and testing of thermonuclear weapons on an emergency basis. It was in January of this year that several alternate concepts were approved, in addition to a design then in progress, and design of these alternates began at once. At the same time the date (early 1954) and preliminary scope of Operation Castle were set.

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During Upshot similar but smaller devices were used on [REDACTED] tests on March 24 and April 25, 1953. The first gave a lower yield than expected and the second higher. This experience and the fact the core to be used has never been tested in any high explosive system, let alone the [REDACTED] system, emphasized the need of full scale test of the proposed primary device. These same facts pointed up the emergency of test in that should the performance of the device not be satisfactory a different design would have to be completed and tested prior to Castle.

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For the above reasons - the emergence of a specific design after the start of Upshot, and the need to test it immediately - we were compelled to submit our recent request for an additional Upshot test.

Gordon Dean
Chairman

June 1 1953

By: [Signature]

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