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Department of Physics

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21 February 1959

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Dr. James R. Killian
Office of the President
White House
Washington 25, D. C.

Dear Dr. Killian:

1. I enclose for your consideration a memorandum entitled "Expression of Views on Declassification of Argus" dtd. 17 February 1959 (SECRET). This is an extended version of a similar one submitted at the Conference on Argus on 18 February 1959 in Livermore, California.

2. As you will note, my views are: (a) that continued security classification of the Argus-Hardtack tests is of little practical avail, (b) that a prompt and full public report of the tests and observations will contribute greatly to the international prestige of the United States as a leader in the application of atomic devices to scientific purposes, and (c) that if we fail to do (b) the U.S. will quite likely be again "Sputniked" in the eyes of the world by the Soviets.

Sincerely yours,

J. A. Van Allen

J. A. Van Allen

Enclosures (1) "Expression of Views on Declassification of Argus" dtd. 17 February 1959, 3 pages (SECRET).
(2) Excerpt from "The Observer", English newspaper of Sunday, February 15, 1959 entitled "Radiation Belt May Monitor A-Test" (UNCLASSIFIED).

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Expression of Views on Declassification of Argus

1. Present Situation

(a) The possibility of conducting Argus-type experiments has been suggested publicly by a number of persons both in the United States and abroad. (See most recently a paper by P. H. Fowler and C. J. Waddington in Nature 182, 1728 (1958)). These published suggestions have come, of course, from persons having no knowledge of the actual Argus tests. It must therefore be recognized that the idea of such experiments is now common knowledge among interested scientists throughout the world.

(b) The existence and general properties of the natural, trapped radiation around the earth are now well known by virtue of our satellite and space probe experiments during the I.G.Y. and those of the Soviets with Sputnik III (and probably with Lunik I). And a considerable amount of interpretative work has also been published. Hence, the suggestion of artificial injection of the decay electrons from fission products is obviously a sound one. Indeed the artificial aurorae resulting from the 1 August and 12 August 1958 Hardtack detonations over Johnston Island have been observed from Hawaii, Samoa, Fiji, Rarotonga, and Penrhyn and the associated geomagnetic disturbances have been widely observed. (See A.L. Cullington, Nature 162, 1365 (1958) "A Man-Made or Artificial Aurora" and A. L. Cullington, "Apia Aurorae", a paper presented to the Canterbury Astronomical Society in September 1958; also private communication to the writer from Walter O. Roberts of the High Altitude Observatory of the University of Colorado).

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There is also in print an account by M. Gadsden and K. Salmon (Nature 182, 1598-1599 (1958) of their observations in early August 1958 of the resonant line of atomic lithium in the twilight sky. The associated "black-outs" of commercial communications over the Pacific were publicly reported by Mackay Radio and by the Radio Corporation of America.

(c) The Soviets are known to possess the means and the competence for the conduct of Argus-Hardtack tests. In view of the widespread knowledge of existing reports (paragraph (b) above) and of the known Soviet competence and interest in this type of endeavor, it may reasonably be presumed that they are already preparing such experiments, if indeed they have not already conducted them.

(d) The U.S. tests, already carried out successfully, undoubtedly constitute the greatest geophysical experiment ever conducted by man. The observations have great significance in understanding the nature of the geomagnetic field, the mechanisms of trapping of particles in the geomagnetic field, the origin of aurorae and magnetic storms, and the density of the very high atmosphere. The subjects are the heart of the International Geophysical Year and have engaged far-flung participation by most, if not all, of the sixty-six countries which have contributed scientific work to the I.G.Y.

2. Summary Opinions

In view of the above,

(a) I regard continued secrecy of the Argus program as reflecting a gross underestimate of Soviet competence - an underestimate reminiscent of those of a few years ago concerning atomic and hydrogen bombs, satellites, and controlled thermo-nuclear research.

(b) I regard a prompt and full report of our tests and observations as a way to contribute enormously to the international prestige of the United States as a leader in scientific endeavor, especially in connection with the I.G.Y.

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(c) I regard any less bold course of action as placing the United States in the position of being "Sputniked" by the Soviets again.

3. Proposed Measures

(a) Prompt public announcement of the Hardtack-Argus experiments by an appropriate federal official, preferably the President, with emphasis on the geophysical character and significance of the tests.

(b) A full-fledged professional symposium, open to the public, with comprehensive papers by individual authors - such a symposium to be held under the auspices of the National Academy of Sciences.

(c) Publication of an I.G.Y. monograph containing full papers on all aspects of the subject - both experimental and theoretical.

J. A. Van Allen

J. A. Van Allen

Copy No. 1 to Dr. James R. Killian
2 to Dr. Herbert York
3, 4 and 5 retained in file