

Now, evidence is beginning to mount which indicates that U.S. scientists outside the AEC program and some in foreign countries are doing some rather extensive work in the application of lasers to solving the problems of controlled thermonuclear reactors for the production of energy. Some of our workers give indication of pursuing some of the same paths that our weapons designers followed and are following, and in doing so are becoming involved in activities which are classified under the classification guidance now in effect. This is so because the classification guidance which defines information as Restricted Data under the Atomic Energy Act is applicable not only to individuals working under the sponsorship of the U.S. Government but to all citizens of the United States. Therefore, it is necessary to inform such citizens of the Restricted Data aspect of work they may be doing and of the need to either terminate such work or continue it under arrangements that insure protection of classified information.

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The Commission tends to believe that this information should continue to be classified although we feel that our classification rules on this subject should provide university researchers with the maximum possible freedom within the limits of national security. This has led to a decision to review the current classification guide to determine whether, within the guidelines established above, it can be modified without endangering the national security.

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Within the framework described by items (a) through (f) above and the desire of the Commission to provide researchers in this field with as much latitude as possible within the limits of national security, the Commission requests that the Panel consider the following specific questions and give us the benefit of its advice on each of them.

1. Is it reasonable to classify as Secret Defense Information information on lasers which are capable of power outputs of 10^5 joules or more in ten nanoseconds or less? Are such limits practical? Does the Panel feel that some basis other than power and time should be adopted as defining the classified areas? If not, are there some other dividing lines of power and time which the Panel feels would be more appropriate?
2. Do the current classification rules concerning experiments and experimental plans utilizing laser initiated external inertial confinement and compression provide independent researchers with all of the freedom practicable within the national security?
3. Can the classification guidelines concerning theoretical calculations and experiments aimed at achieving pure fusion nuclear explosions, including microexplosion of fuel pellets as well as information confirming the feasibility of pure fusion devices be modified so as to broaden the scope of unclassified work in that area?
4. Can any theoretical calculations and experiments involving the use of laser radiation for the following purposes be declassified: (1) symmetrically implode materials to a ten-fold or greater compression, (2) obtain a density in hydrogen and its isotopes as great or greater than one gram atom per cubic centimeter, (3) produce a pulse of thermonuclear yield having a peak specific power output density anywhere greater than 10^{15} watts per cubic centimeter, or (4) produce a pulse of TN yield having a specific power output density anywhere greater than

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10¹⁵ watts per cubic centimeter if DT were substituted for relatively inert isotopes in experiments in which such power output densities were not achieved.

- 5. Can there be any relaxation of the current classification now in effect on information concerning the time shaping of the laser output?

I hope you will agree to serve as a member of this Panel. Since there is some urgency in this matter, it is our hope that the Panel will be able to meet during the first week in January. The Director of Classification, who will be attending the Panel meeting as the AEC representative, will make such arrangements as the Panel may desire for briefings or discussions with individuals of the Panel's choice.

Sincerely,

(Signed) Glenn T. Seaborg

Chairman

Enclosures:

- 1. Classification Bulletin WFP-36
- 2. DOB Security Classification Guidance

*Dr. M. Rosenbluth
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