Question 4: HEW witnesses referred to criteria used in the awards of grants and contracts for pollution abatement research. Please furnish all details on the criteria used for such awards and indicate how such criteria are used to promote technological breakthroughs on

new innovations in pollution abatement techniques.

Answer: In the area of air pollution research grants, the Division of Air Pollution of the Public Health Service uses the review mechanism provided by the Division of Research Grants of the National Institutes of Health for initial review of research grant applications. All research grant applications sent to the Public Health Service are first reviewed by the Referral Office, Division of Research Grants, National Institutes of Health, where they are assigned to the appropriate Division or Institute. The applications are also assigned to a study section for technical review and recommendation to the National Advisory Environmental Health Committee (NAEHC) for a secondary review.

The study sections and the NAEHC are composed principally of outstanding authorities in the major fields of research. These special consultants are selected on a nationwide basis. They have accepted responsibility for (a) providing technical advice on applications, and (b) surveying the status of, and needs for, research in their fields.

The majority of the air pollution grant applications are reviewed by the Environmental Sciences and Engineering B Study Section, which has 13 members. These are chemists, biochemists, botanists, agronomists, chemical and mechanical engineers, and industrial hygienists who have broad scientific experience and insight, and in addition are actively engaged in air pollution research and are recognized experts in their respective fields. Some air pollution applications are reviewed by such study sections as allergy and immunology, biophysics and biophysical chemistry, bacteriology and mycology, behavioral sciences, cell biology, cardiovascular diseases control, hematology, medicinal chemistry, pathology, radiation, and toxicology.

For review of a research grant application for which no regular study section has been established, an ad hoc group is formed of experts in the field of the application. Due to the increasing number of air pollution-oriented applications in the social sciences, this form of initial review is becoming of increasing importance to the air pollution

research grant program.

A prime purpose of the research grants is to stimulate advances in scientific knowledge of the nature and control of air pollution. The very nature of the grants program, in which the initiative must come in large measure from nongovernmental scientists, provides an opportunity for wide participation in air pollution research. Thus, the program offers some degree of assurance that promising new ideas and new approaches to air pollution control will be submitted for appraisal and, if deemed worthwhile, financial support. The criteria used in judging air pollution research grant applications are sufficiently flexible to permit awarding of grants to projects which may open up new areas of technical knowledge. In addition, the Division of Air Pollution staff members responsible for administering the research grants program maintain close liaison with the scientific community and encourage scientists with promising ideas to seek Federal grant support.