

The Role of Scientists in the Preparation and Evaluation of Environmental Impact Statements¹

ALTON A. LINDSEY²

Department of Biological Sciences

Purdue University, Lafayette, Indiana 47907

Pressure from private citizens including many environmental scientists has prompted Congress, the Administration and the Courts to improve our national policies toward the environment during 1969-1971. The Congressional Research Service identified as "environment oriented" 121 of the 695 bills signed into law during the 91st Congress. Signing of the National Environmental Policy Act (NEPA) on January 1, 1970, was President Nixon's first official action in the "environmental decade of the '70's." The Act set up a 3-man Council on Environmental Quality (CEQ) with a small staff. It deals with environment broadly, whereas the Environmental Protection Agency (EPA), born on December 2, 1970, is concerned only with air and water pollution, environmental impact of pesticides, solid waste and radiation hazards in the general environment. As an operating agency, EPA received nearly \$2.5 billion for F.Y. 1972.

NEPA requires for major federal projects that the lead agency prepare a "draft" environmental impact statement, stating the effect the proposed action would have on the environment, including unavoidable adverse effects, possible alternatives, the long-term as well as immediate impact and any irreversible and irretrievable commitments of resources. The draft statement must be available to the public for 90 days before action is taken. Public hearings are to be provided "when appropriate" which presumably means in controversial cases. Draft statements are reviewed in the 10 regional offices of EPA, and by other involved federal agencies. The public (including outside scientists) is invited to make significant inputs into revision of draft statements, and thus into federal decision-making. This concedes that the public has some expertise as to what is in the public interest. As a panel of 3 federal judges ruled, "The very purpose of NEPA was to tell federal agencies that environmental protection is as much a part of their responsibility as is protection and promotion of the industries they regulate".

¹ The Indiana Academy of Science established in 1971 a Science Communication Award of \$500., funded through the Science and Society Committee from its National Science Foundation grant. The award is presented at the general session of the fall meeting, when the recipient is called upon to give an address. He is also scheduled for visits to Indiana college campuses, to bring somewhat similar material to students, faculties and townspeople. Printed here is Dr. Lindsey's brief summary of his address given at the Earlham College meeting of the Academy on October 29, 1971. A more popularized version entitled "People, science and federal environmental policy" was given later at 5 colleges.

² The speaker wishes it recorded that the views expressed herein are his own; he is not speaking as a representative of Purdue University, the Indiana Academy of Science or any other institution.

States should license the ecological consulting firms which are springing up, so as to insure at least minimum qualifications. So far, these firms have had little business involving impact statements. There is much scientific and technical content in the areas under CEQ jurisdiction: air quality, weather modification, energy, hazardous substances including pesticides and herbicides, land use and management, noise, physiological health and human well-being (including food purity and waste systems), transportation, urban environments, water and wildlife. The Washington office of CEQ evaluates the final statements, chiefly by attorneys with some *ad hoc* reference to scientists. The Chicago regional office of EPA, one of the best, employs many technical experts, but has twice as many people trained in law and social science as in chemistry and chemical engineering. (Although EPA is often thought of as an enforcement agency, it is not empowered to take cases to court, but recommends action by prosecutors up to the Department of Justice.) A maxim in Washington says that scientists should not be on top, only on tap. But we think the tap should be turned on more often. This would make it less necessary for scientists' groups like Environmental Defense Fund to engage in litigation. Students being trained in the new environmental law specialty should take more courses in science.

The federal projects that have been pushed through without compliance with NEPA have mostly been military procurement projects. Several large public works projects have been postponed by citizen action in federal courts for lack of environmental impact statements. However, no projects have yet been finally vetoed or terminated, without court action by private groups, because an impact statement projected environmental harm. Nationally, about 1,800 impact statements have been received, for Indiana only four. Apparently, only one public hearing on an impact statement has been held in the nation. Scientists Institute for Public Information is asking the courts to require AEC to prepare, for comment and discussion of alternatives, a detailed statement on the environmental effects of, not one reactor at a time, but a nation full of liquid metal fast breeder reactors.

Since even the best impact statements prepared by the promoting agency are slanted toward advocacy, such statements for potentially controversial projects, at least, should be done by multidisciplinary teams independent of the agency, and using a broad systems analysis approach.

The provisions of NEPA have greatly enlarged the opportunity of scientists, as well as the so-called ordinary citizen, to participate directly in the operative processes of government. For this unprecedented and superb mechanism of environmental democracy to start operating as Congress intended, it will require more understanding and activism by outside scientists and other private citizens.

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