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Multi-Media Confrontation—The Environmentalists’ Strategy for a “No-Win” Agency Proceeding

Irving Like*

Frequently legislation creating government agencies is narrow in purpose and may exclude environmental considerations. Moreover, many government agencies have become sympathetic with the goals of the industries that they regulate. Using the AEC as his example, the author shows how hearings tend to exclude considerations of public interest unless they are vigorously asserted by citizens as intervenors: the agency’s restrictive rules may make a traditional victory for the intervenor nearly impossible. Inaction, however, is not the answer. Even though an excellent environmental claim can be shattered in the agency proceedings because of the heavy agency bias for industry, the environmentalist intervenor can use the agency procedure for the benefits he can reap from it, namely, education of the public and consequent public support.

The battle to save our environment very often involves government agencies, either as the initiators and builders of projects which ravage natural resources, or as the allegedly impartial mediators between those who would spoil the environment and those who would save it. Groups and individuals who would fight projects that waste, pollute, and threaten our very survival will often find themselves locked in combat within the framework of administrative agency rules. The agency may be at the federal, state, or even local level of government, but its remedial potential must be utilized. A successful remedy at the agency level, however, does not demand a total victory over the project that threatens the environment. This Article will indicate a means of achieving a victory for environmental values even if the agency determination proves unfavorable. A “no-win” strategy can

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maximize the environmental benefits arising from lengthy administrative hearings even when the chances of administrative victory are almost non-existent.

The question naturally arises—why should the concerned conservationist litigate a "no-win" contest where the agency is challenged on the substantiality of the evidence supporting its determination and where defeat is probable? What is to be gained in such a contest? The answer is that the environmentalist must not view such a struggle in the traditional terms of "win" or "lose," but rather must see it as a means of realizing an ultimate environmental objective. In a traditional, non-environmental agency proceeding the contenders are ordinarily confined to the privilege seeker and its rivals, seeking or opposing the issuance of a license or franchise. In such a case, the usual result is that there will be a winner and a loser. In the environmental case, however, a different situation results from the necessary involvement of a public interest.

In the non-environmental litigation, if emotional issues of interest to the public are not involved, only the tribunal, the litigants, and their witnesses are present. Counsel usually presents his cross-examination and affirmative case in a conventional and sequential manner designed primarily to win for his client a favorable decision from the tribunal. In an environmental case, such as one concerning the hazard of nuclear pollution, the public interest is involved and litigation as usual, with the standard scenario of an agency hearing, will not suffice. The administrative arena must be used as an educational forum to alert the public to the project's adverse effect on environmental quality. The environmental stakes must be vividly dramatized as a prelude to organizing political action to block the project or correct its deficiencies. Issues to be raised would include the danger of accident which may discharge large quantities of radiation, the cumulative long-term effect of low levels of radiation routinely discharged, the problems of transpor-

1. U.S. Atomic Energy Comm'n, Theoretical Possibilities and Consequences of Major Accidents in Large Nuclear Power Plants, Wash-740, Mar. 1957. "For the three types of assumed accidents, the theoretical estimates indicated that personal damage might range from a lower limit of none injured or killed to an upper limit, in the worst case, of about 3400 killed and about 43,000 injured. Theoretical property damages range from a lower limit of about one half million dollars to an upper limit in the worst case of about seven billion dollars." Letter of transmittal from AEC to Joint Committee on Atomic Energy, Mar. 22, 1957, at viii.

See S. Novick, THE CARELESS ATOM (1969), for accounts of the accident in 1957 at Windscale Pile No. 1 which released large amounts of radioactivity into the air and the accident at the Enrico Fermi atomic power plant in 1966 which came close to releasing large quantities of radioactivity into the atmosphere near Detroit, Michigan. Id. at 5-10, 156-62.

2. The cumulative effects of radiation discharges are discussed in Reports of the United Nations Scientific Committee on the Effects of Atomic Radiation.
tation and storage of high level wastes,\(^3\) thermal pollution\(^4\) and other

1958 Supplement No. 17 (A/3838)
1962 Supplement No. 16 (A/5216)
1964 Supplement No. 14 (A/5814)
1966 Supplement No. 14 (A/6314)
1969 Supplement No. 13 (A/7613)

The consensus of scientific opinion is that even the smallest amounts of radiation are liable to cause deleterious, genetic and perhaps somatic effects. 1958 Supplement, supra, at 41, \(\S\) 55(a).

It is recognized that even a slow rise in the world's environmental radioactivity might eventually cause appreciable damage to large populations before it could be definitely identified as due to irradiation. Id. at 42, \(\S\) 56.


3. See S. Novick, supra note 1, at 143-46, 186-87; *Senate Hearings on Underground Uses of Nuclear Energy, part 2, supra note 2,* at 1672-77.

Testimony on the problems of transporting radioactive wastes was given during the AEC Atomic Safety & Licensing Board Hearings on the application of Long Island Lighting Company to build a nuclear power plant at Shoreham, New York. AEC Docket No. 50-322, Transcript at 3129-99. Applicant testified that 1,268,000 lbs. of solid radioactive wastes plus 40 to 75 spent fuel assemblies of 600 lbs. each would be generated yearly at the proposed Shoreham plant [Id. at 3129-30-A] necessitating three truck shipments every two weeks [Id. at 3132] or between 100 to 125 trailer truck shipments per year from Long Island to the burial storage area at West Valley, New York. Since transportation of radioactive wastes is prohibited over the Triborough Bridge & Tunnel Authority bridges and tunnels connecting Long Island with the mainland of New York State (Triborough Bridge & Tunnel Authority Regulations, §§ 254.3B & 255.15, cited in AEC Docket No. 50-322, Transcript at 3138-39), all radioactive wastes would be required to be shipped through the City of New York in order to reach West Valley, New York. Id. at 3145-46.

The problems of transportation of radioactive materials are discussed at length in *Hearings on Indemnity and Reactor Safety Before the Joint Comm. on Atomic Energy, 87th Cong., 2d Sess.* (1962); *Hearings on Proposed Extension of AEC Indemnity Legislation Before the Joint Comm. on Atomic Energy, 89th Cong., 1st Sess.* (1965); *Joint Comm. on Atomic Energy, 89th Cong., 1st Sess.*, *Selected Materials*.
radiological and non-radiological effects. Thus, the public interest in a nuclear power plant case may transcend its interest in a higher standard of living when it becomes apparent to the public that in the long run nuclear pollution, if unchecked, will threaten survival.

Viewed in this perspective, a losing environmental cause is worth fighting for because it adds to the ecological enlightenment of the public. It is even possible that a prospective polluter may be induced to abandon its plans or at least improve upon them if it knows that its project will provoke environmental challenge.


The problems of storage of high level wastes are described in the Wall Street Journal, Jan. 25, 1971, at 1, col. 6.


7. The controversy over pollution from a proposed power plant on Cayuga Lake, N.Y., illustrates this point. According to Dr. Alfred W. Eipper,

A particularly encouraging by-product of this controversy [concerning a proposal to construct an 830 megawat nuclear power station on Cayuga Lake] was a great deal of imaginative thinking on the problem by a wide variety of scientists, engineers, economists, and others. It is this kind of thinking that will ultimately provide significant solutions to pollution problems.

Eipper, Pollution Problems, Resource Policy, and the Scientist, SCIENCE, July 3, 1970, at 12. See also the Scientists' Institute for Public Information (SIPI), Fall 1970 vol. 1, no. 1, at 12, which reports that two years of activity by the Minnesota Committee for Environmental Information (MCEI) and the Minnesota Pollution Control Agency have been instrumental in focusing national attention on the U.S. nuclear energy problem, including questions concerning what is "permissible exposure" to ionizing radiation and the adequacy of federal radiation standards.

8. It has been claimed that construction of a nuclear power station at Cayuga Lake has been indefinitely postponed as a result of the local citizens' effort to ensure that the plant would inflict minimal environmental damage and create no public health hazard. Scientists' Institute for Public Information (SIPI) Report, supra note 7, at 12.
AN AEC CASE STUDY

An excellent example of agency proceedings where the "no-win" strategy can be utilized is the Atomic Energy Commission's method of granting construction permits for nuclear power plants. If a citizen environmental group decides to intervene in such AEC proceedings to challenge the issuance of a permit to a utility to build a giant nuclear power plant, it is faced with formidable resource, legal, and procedural problems.9

The AEC is a classic example of the military-industrial research and development complex, and the litigant with limited resources enters a David-and-Goliath confrontation, pitting himself against the utility, the AEC technical staff, and the titans of American industry.10

9. Atomic Energy Act, 42 U.S.C., § 2239 (1964), requires the Commission to hold a hearing on the application for a construction permit for a nuclear power plant facility at the request of any person whose interest may be affected by the proceeding, and to admit any such person as a party to such proceeding. The AEC Rules of Practice, 10 C.F.R. § 2.714 (pt. 2), authorizes intervention by any person whose interest may be affected by a proceeding and who desires to participate as a party. Hearings on applications for construction permits to build nuclear power plants are not held unless the AEC technical staff first recommends that the permit be issued. At a contested hearing, the staff participates as the ally and not the adversary of the applicant. 10 C.F.R. pt. 2, app. A. A two step licensing procedure is provided for, consisting of a construction permit stage and a safety finding stage. Under its regulations, the AEC is permitted to defer a definitive safety finding until operation is actually licensed. Rules of Practice, 10 C.F.R. § 2.104, pt. 2; 10 C.F.R. § 50.35; Power Reactor Development Co. v. International Union of Electrical Radio & Machine Workers, AFL-CIO, 367 U.S. 396 (1961).

The illogic of holding that safety findings can be made after construction is finished was pointed out by Justice Douglas in his dissent in the Power Reactor case. But when that point is reached (after construction is finished), when millions have been invested, the momentum is on the side of the applicant, not on the side of the public. The momentum is not only generated by the desire to salvage an investment. No agency wants to be the architect of a "white elephant." 367 U.S. at 417.

During the Shoreham hearings, it was disclosed that the utility had spent several million dollars installing concrete in preparation of the foundation for the facility, and that the reactor pressure vessel itself had been purchased pursuant to a contract between the utility and General Electric Co. entered into prior to the commencement of the hearings. The vessel was more than 60 percent fabricated at the shops of Combustion Engineering in Chattanooga, Tennessee. Certainly this investment momentum must weigh upon the Atomic Safety & Licensing Board in its decision on the construction permit application.

Arrayed on their side as well are the huge complex of dependent trade associations, economic interest groups, public relations media, the scientific, engineering, and technical resources of the AEC, the AEC national laboratories and sponsored research, and the AEC's Congressional protectors. The Joint Congressional Committee on Atomic Energy, a powerful standing committee, has helped the AEC gain billions of dollars in Congressional appropriations which the AEC has used to promote the development of military and civilian uses of atomic energy. In the process the AEC has gained powerful allies among the major corporations, the military services, utilities, universities and re-

11. Examples are Atomic Industrial Forum (representing the utility industry, the reactor manufacturers, the architect-engineering firms, and the uranium fuel industry), Edison Electric Institute (representing operating companies serving most of the customers of the investor owned segment of the electric utility industry in the United States), and American Public Power Association (a national trade organization representing most of the publicly owned electric utility systems in the United States). A listing of organizations interested in the general and administrative standards for nuclear energy appears in Hearings on Employee Radiation Hazards and Workmen's Compensation Before the Joint Comm. on Atomic Energy, 86th Cong., 1st Sess. 139-45 (1959).

12. The economic interest groups depending upon the nuclear energy industry constitute a Who's Who of American industry covering all aspects of the total cycle including the mining of the raw materials, the milling of the mined materials, the transportation sequence of the raw and processed materials to the fuel fabrication plants and then to the power plants, the manufacture of the nuclear steam supply system and all equipments and components, the operation of the power plants, and the transportation and disposal of the waste products. The dominant position of American industry in reactor technology is evidenced by the fact that American type reactors enjoy an almost complete monopoly in foreign markets. Hearings on AEC Authorizing Legislation, Fiscal Year 1971, Before the Joint Comm. on Atomic Energy, 91st Cong., 2d Sess. 1607-09, app. V (1970) (statement by Philip Sporn, Consultant, on Developments in Nuclear Power Economics, Jan. 1968 to Dec. 1969).

The range of problems associated with the development of civilian nuclear power is described in Hearings on Fundamental Agreements for Cooperation Before the Joint Comm. on Atomic Energy, 90th Cong., 1st & 2d Sess. 211, app. 8 (1967-68), (Civilian Nuclear Power, the 1967 Supplement to the 1962 Report to the President).

13. The Atomic Energy Commission publishes a weekly news release giving the views of AEC Commissioners in promotion of the nuclear power technology. NUCLEONICS WEEK, a McGraw-Hill publication, covers developments of interest to the nuclear energy industry from a pro-atomic power technology bias. The publications of the Atomic Industry Forum, the Edison Electric Institute, the utilities and other major corporations with a stake in the development of the technology also serve as public relations media to further the pro-technology bias.

14. The Atomic Energy Act, 42 U.S.C. §§ 2011-2296 (1964), created the Joint Committee on Atomic Energy. Id. §§ 2251-57. This Joint Committee is authorized to conduct hearings for the purpose of receiving information concerning the development, growth and state of the atomic energy industry. All bills, resolutions and other matters in the Senate or the House of Representatives relating primarily to the Atomic Energy Commission or to the development, use or control of atomic energy must be referred to the Joint Committee, and any government agency shall furnish any information requested by the Joint Committee with respect to the activities or responsibilities of that agency in the field of atomic energy. Id. § 2252.
search institutes in the United States and abroad.\textsuperscript{15} Thus, the citizen who challenges an AEC license project is met not only by the applicant and the technical staff of the Commission which has recommended the issuance of the license, but also the well-orchestrated chorus of the nuclear power technologists.\textsuperscript{16}

The legal rules also operate against the intervenor seeking to protect the environment. The AEC, which promotes that which it is also supposed to regulate,\textsuperscript{17} drafts the regulations governing the issuance of the construction permit or operating license, appoints from within its establishment the licensing board which will judge the proceeding, and reserves to itself the ultimate review of its delegates' decision.\textsuperscript{18} The agency proceeding is conducted according to rules of practice de-

\textsuperscript{15} The AEC's influence within the scientific and academic community is aided in great part by the substantial moneys which the AEC spends in support of research and development. The AEC funds the Argonne National Laboratory, Oak Ridge National Laboratory, Brookhaven National Laboratory, Lawrence Radiation Laboratory, Los Alamos Scientific Laboratory. The AEC also pays for research conducted by many of the major colleges, universities and research institutes in the United States. Its estimated operating costs for fiscal year 1971 biology and medicine program was $88,300,000. \textit{Hearings on AEC Authorizing Legislation, Fiscal Year 1971, Before the Joint Comm. on Atomic Energy, supra note 12, at 898, app. V.}

The omnipresence of the AEC in supporting scientific research in the United States led Senator Gravel to ask whether it was possible to find anybody who knows anything about radiation who does not work for the Atomic Energy Commission and whether the AEC had cornered the market. \textit{Senate Hearings on Underground Uses of Nuclear Energy, part 2, supra note 2, at 535-36}. A study of the history of hearings held before the Joint Committee on Atomic Energy demonstrates the ability of the AEC to line up scientific witnesses in support of its policies and viewpoints. See for example \textit{Environmental Effects Hearings}, parts 1 & 2, supra note 2, and in particular \textit{id. part 2, vol. 2, at 2414}, setting forth a letter signed by 29 scientists supporting the radiation guides for the general population.

\textsuperscript{16} The usual lineup against the citizen consists of the utility and the AEC technical staff. \textit{But see NUCLEONICS}, Nov. 18, 1970, at 3, which reports that Suffolk Scientists for Cleaner Power & Safer Environment, a group of largely Brookhaven National Laboratory scientists, who intervened on behalf of the planned Long Island Lighting Co. Shoreham nuclear plant on Long Island Sound [AEC Docket No. 50-322] would like to go national and rally scientists and other citizens to their cause. This group intervened in the Shoreham proceeding primarily to offset the intervention of the Lloyd Harbor Study Group, a coalition of conservation and environmental organizations which opposes the Shoreham project.


The Licensing Board, Appeal Board and Commission are composed of members drawn from the nuclear technology establishment with minimal, if any, representation from the fields of biology, genetics, medicine, and the so-called "soft sciences."
signed by the AEC. These rules favor the issuance of the requested license and provide an obstacle course for any intervenor opposing the project.

The problems of lack of funds, inability to obtain expert witnesses and the other difficulties which plague citizen intervenors in environmental litigation have been well documented. In an AEC proceeding, these problems are compounded by the fear or reluctance of qualified scientists and technicians to testify against a project recommended by the AEC. Various factors have dissuaded scientists and engineers—

19. The Shoreham case (AEC Docket No. 50-322) is a good example of the built-in pro-nuclear technology bias of the Licensing Board. One technical member is an employee of the Los Alamos National Laboratory, which is funded, controlled and operated by the AEC. The second technical member is employed by Union Carbide Corporation, which operates the Oak Ridge National Laboratory for the AEC and is active in the development and marketing of uranium concentrates. The Board denied a motion that it be disqualified and its decision was upheld by the Appeal Board and the Commission. See note 9 supra.

   a) Notice of hearings is not published in a manner, and sufficiently in advance of the hearing, to facilitate timely intervention by interested citizens and an adequate opportunity to prepare for the hearings. Notice need only be published in the Federal Register. Id. § 2.106.
   b) The rules governing intervention do not spell out any standards or guidelines on which intervention will be allowed, giving the Commission very broad discretionary power to deny petitions to intervene. Id. § 2.714.
   c) An original and 20 conformed copies of each pleading or document must be filed unless the Board dispenses with such requirement. Id. § 2.708(d).
   d) Subpoenas are not issuable as of right but only on application to the Chairman of the Atomic Safety and Licensing Board Panel, to the Chief Hearing Examiner, or to another designated officer. Id. § 2.720.
   e) Interlocutory appeals to the Commission from rulings of the presiding officer are not available as a matter of right. An interlocutory appeal may only be had when the presiding officer, in his own judgment, determines that prompt decision is necessary to prevent detriment to the public interest or unusual delay or expense. Id. § 2.730(f).
   f) The presiding officer is empowered to direct the service of written testimony—a provision which imposes an undue burden on the intervenor with meager funds and limited opportunity to prepare for trial. Id. § 2.718.
   g) The rules do not provide for furnishing free copies of lengthy transcripts to indigent intervenors. Id. § 2.750.
   h) In licensing proceedings, the AEC can make up the rules of the game as it goes along, through its power (1) to issue regulations, (2) to control the actions of its appointee licensing boards, and (3) to resolve major or novel questions of policy, law, or procedure which are certified to it. Id. app. A, III (g) (2).


See also address by Harold P. Green, "The Role of Government In Environmental Conflict," before the Conference on Law and the Environment, Warrenton, Va., Sept. 11-12, 1969, sponsored by the Conservation Foundation.

22. See CHEMICAL & ENGINEERING NEWS, July 13, 1970, at 13, reporting on charges by Ralph Nader that the AEC is trying to silence or pressure Dr. John Gof-
even those with strong concerns about the environmental effects of nuclear power projects—from testifying in behalf of citizens in such litigation. These include loss of employment or consultant contracts with the AEC, the utilities and the nuclear power industry, curtailment of research grants to universities with whom the prospective expert witness is affiliated, and other forms of economic and professional harassment.\(^2\)

The legal rules of judicial review of administrative agency proceedings do not provide much comfort to the intervenor who wishes to appeal a losing administrative effort.\(^2\) The doctrine of exhaustion of administrative remedies,\(^2\) the final order rule,\(^2\) and the substantial evidence rule\(^2\) represent formidable barriers to an attempt to persuade a court to grant judicial relief against environmental abuse by a polluter seeking an agency license. It is not suggested, however, that the environmentalist can never succeed in getting a court to overturn a determination of an administrative agency upon a question committed to the agency's judgment where the agency's findings were contrary to law, arbitrary or capricious, or were unsupported by substantial evidence.\(^2\) Judicial relief has been granted in environmental cases where agencies have proceeded without lawful authority,\(^2\) have failed to observe required procedures,\(^3\) or have violated the mandate of a particular statute; and successful challenges on similar grounds may increase

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To me, the most encouraging development of the last two years has been not only that some scientists have begun to speak out with power and vigor on environmental issues and the errors of misguided technology, but that they have won a growing national audience for their views.

Yet I have looked on with dismay as a few elders of the scientific establishment have made studied efforts to put down some of these new leaders as 'unscientific upstarts' . . .


in future cases because of procedural aid given to environmentalists by recent state constitutional amendments, the National Environmental Policy Act (NEPA), the Federal Water Quality Improvement Act, and other environmental legislation.

The environmentalist faces his most awesome task when he challenges an agency decision on the ground that it is not supported by substantial evidence. Where the substantive policy decision of an agency like the AEC is challenged, the drain upon an intervenor's resources is greatest. Even a great amount of technical research can fail to build the strong substantive case required to obtain judicial review of a decision in which an agency has abused its discretion. The research need not be wasted, however, since it is essential to the public education purpose of the "no-win" strategy. This type of case, in which the citizen is forced to appeal to the public, illustrates most clearly the mismatch of the citizen versus the agency-industry constituency.

II

THE MULTI-MEDIA CONFRONTATION

As a basic strategy an agency proceeding should be treated as a multi-media confrontation in which the agency proceeding itself is both the medium and the message, transmitting to the public the truth about an abuse of the environment. When an agency proceeding may decide the ecological fate of a major natural resource like Long Island Sound

31. E.g., N.Y. Const., art. 14, § 4, granting any citizen standing to sue in conservation cases with the permission of the appellate division of the state supreme court.
35. The Shoreham proceeding (AEC Docket No. 50-322) involves a proposal by Long Island Lighting Company to build an 849 mwt atomic power plant on the shoreline of Long Island Sound at Shoreham, N.Y. If licensed by the AEC, the plant would discharge low levels of liquid radioactive effluent and 600,000 gallons per minute of heated water into Long Island Sound.

The Federal Environmental Protection Agency's "Report on the Water Quality of Long Island Sound," March 1971 (CWT 10-29) concluded that pollution of Long Island Sound has adverse effects on fish, shellfish and other aquatic life, causes interference with recreational use of the waters, despoils beaches and shore-front property, and significantly affects the ecology of the Sound. The report identified as sources of this pollution, wastes from municipalities and industries (including oil and heated effluents).
and impose additional radiation pollution, when its long-term biological effects on the present and future populations of an area like Long Island are unknown,\textsuperscript{36} citizen intervenors should transform the agency hearings into a dramatic medium. The hearing, by its content and total effect, can educate the public and its opinion- and policy-makers to the environmental hazards and create public commitment to, and participation in, political activity aimed at ultimately winning the victory not attainable in the narrow confines of the agency proceeding.\textsuperscript{37}

The public, however, does not attend long, drawn-out agency hearings devoted to technical details, no matter how relevant they are to important environmental questions. Most laymen cannot long endure a cross-examination or presentation of evidence on matters such as the species of aquatic organisms inhabiting a particular waterway, their radio-sensitivity and tendency to reconcentrate radioactive effluent, and their fractional mortality due to thermal shock caused by their travels through a plant condenser or by the discharge of large volumes of heated water. But intelligent reporters, assigned by newspapers, magazines, radio or television networks to cover controversial hearings, can make a serious attempt to grasp the essence of scientific and technical points

It recommended that federally approved water quality standards be implemented and that enforcement action be initiated immediately against those sources of pollution not in compliance with federally approved water quality standards.

A federal-state enforcement conference on Long Island Sound was held on April 14 and 15, 1971 under the sponsorship of the EPA for the purpose of setting requirements and deadlines for ending industrial and municipal pollution in the Sound. The conference recommended that a joint water quality program be established for all Long Island Sound and that compatible requirements be developed to govern thermal discharges from power plants. See N.Y. Times, Apr. 18, 1971, at 52, col. 1, Long Island Press, Apr. 14, 1971, at 3. See note 2 supra.

36. At the Shoreham hearings, Dr. Arthur R. Tamplin of the AEC's Lawrence Radiation Laboratory testified that "present radiation exposure guidelines are simply based upon the hope that the genetic effects won't be intolerable." Dr. Ernest J. Serniglass, Professor of Radiation Health Physics in the Graduate School of Public Health, University of Pittsburgh, testified that low level radiation "cannot only lead to significant rises in diseases previously known to be produced . . . such as congenital defects and cancer, but it also appears to act indirectly so as to produce small decreases in maturity at birth that in turn can increase the chance of early death from various causes such as respiratory and infectious diseases." N.Y. Times, Apr. 18, 1971, at 60.

37. Increasing public awareness, leading to citizen and court action, has forced the federal government to act to lessen the hazard from pesticides. Some environmental functions of the Departments of Interior, Agriculture, and Health, Education & Welfare have been combined with the Environmental Protection Agency to increase the effectiveness of control. The federal government has examined its policy of large-scale use of defoliants in Vietnam, a result of which the use of 2,4,5-T has been curtailed not only there but for domestic uses. Senate Comm. on Interior & Insular Affairs, 91st Cong. 1st Sess., Congress & the Nation's Environment, Environmental Affairs of the 91st Congress 120 (Comm. Print 1970). See also F. Graham, Since Silent Spring (1970) which describes the gradual public awakening to the dangers of pesticides since Rachel Carson's Silent Spring.
brought out by testimony on the radiological and thermal effects of an atomic power plant. Thus the important points raised in the proceedings can be passed on to the public. The intervenor must therefore strive to make the hearings as interesting and informative as possible in order to sustain the interest of the media in covering them as a source of daily news items. Since the hearing is part of a larger script staged to win ultimate public support, each day of the agency hearing must contain, whenever possible, a dramatic and suspenseful event. The media must become interested in reporting not only the evidence, but the words and doings of the personalities participating in the hearing, at and away from the witness stand and counsel table.

In this way it is more likely that the intervenor's best points will be reported in depth and the public interest in the case kept alive. This is critical because, if the dramatic impact of the proceeding wanes, the media and ultimately the public may lose interest, and the educational objective will be lost. The intervenor must plan and time the disclosure of its strong points so that each day's coverage has the making of an important news story. The public's interest and attention must be sustained and the community exposed to a continuous learning process. This may produce a somewhat disjointed hearing record but the formal orderliness of the proceeding must be subordinated to the preferred objective of transforming the hearing into what it is really supposed to be—a full and open forum which educates the public while it provides the licensing board with a record on which to base its decision.

The intervenor must also try to counter the well-organized public relations efforts of the utility, and its allies, whose house organs generate widespread publicity portraying the hearings in a light most favorable to the project under consideration. The intervenor should prepare a


39. See note 48 infra.

40. For example, reporters often write their stories or edit their tapes late at night for the next morning's newspaper edition or radio news broadcast. They may sleep late and not appear in the hearing room until the late morning or early afternoon of the hearing. This presents counsel with the problem of timing and spacing his cross-examination and presentation of evidence to coincide with the presence of the media representations. The appearance of Nobel Laureate Dr. James D. Watson on March 15, 1971 to testify in opposition to the planned Shoreham nuclear power plant is an example of such an event. It was not known until then, whether the Licensing Board would permit him to testify. This uncertainty created dramatic suspense. The views of Dr. Watson and his testimony on the increase in the danger of cancer and genetic defects from nuclear power plants were reported in N.Y. Times, Mar. 16, 1971, at 24, col. 3.

newsletter and press release each day summarizing the important points developed by the evidence. Interviews must be granted whenever requested to explain the meaning of the day's happenings, or to give previews of matters which will come up at future hearings.

Comprehensive press coverage also insures that the agency's transgressions will not go unnoticed. Questions or evidence which may be ruled out by the tribunal because of its constricted view of its own responsibilities under NEPA will be reported by the media.

For example, the AEC had until recently taken the position that NEPA does not require it to consider the non-radiological environmental effects of nuclear power plants, or their impact on water quality criteria. AEC boards have sustained objections to cross-examination questions and have issued rulings declaring that the evidence as to these environmental matters would not be accorded probative value. The press has reported the AEC's views on these matters, and has published editorials criticizing the AEC for its tunnel-vision conception of its duties under NEPA.

There are indications that public opinion is growing in favor of Congressional amendment of NEPA to force agencies like the AEC to consider the broader environmental impact of their licensing actions. The AEC itself, in a new regulation published December 4, 1970, de-

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44. During the Shoreham hearings (AEC Docket No. 50-322) the Atomic Safety and Licensing Board took the position that it would not hear evidence in connection with any non-radiological environmental effects of the proposed power plant. See second Pre-Hearing Order dated May 19, 1970.

In other rulings, the Board:

a) denied intervenor's motions for orders directing the issuance of subpoenas to various scientific and technical witnesses who would have testified on thermal and other non-radiological effects of the plant;

b) refused to assign probative value to the comments of federal and state agencies filed pursuant to NEPA;

c) refused to admit evidence on the issue of the alleged need for the project and its alternatives.


See also the critical column by former Interior Secretary Stewart L. Udall entitled Days of Testing for the AEC, Newsday, Sept. 15, 1970.

46. Hearings have been held in the Congress on the extent of compliance by federal agencies with the National Environmental Policy Act and the need for clarification of the statute. (1 BNA ENVIRONMENT REP.—CURRENT 837 (1970)); id. at 869.

Federal agencies have reviewed legislation needed to comply with NEPA. Id. at 698.
clared that the issue of non-radiological effects may be raised in future licensing cases. Whether this is merely lip-service to NEPA remains to be seen, and public pressure or the fear of political reprisal may account for this policy statement. Public pressure and ultimate political action are the goals which can inject victory into a "no-win" agency proceeding.

In summary, the environmental issues must be simultaneously tried on multiple levels—the agency, the media, and the arena of public opinion. The hearing serves as a catalyst to create conditions in which a citizen coalition might defeat the environmental threat through political means. The intervenor, aware of the fact that the proceeding is unfolding in a fishbowl, must phrase its statements on or off the record in a manner mindful of the next day's press or radio account of the hearings. In a major "no-win" environmental case, the intervenor must combine its trial tactics with mastery of the theories and practices of the communications art and media if it is to inform the public of the nature of the environmental degradation and the deficiencies of the applicable regulatory process. The intervenor must manage its case as a newsworthy event, and remain constantly alert to the pulse of media coverage.

III

SCOPE OF THE CHALLENGE

The environmental intervenor should not limit its concern to that of the environmental effects of the particular project but should challenge the technology itself. Too often the environmentalist takes for granted the efficiency of the technology which is incorporated in the questioned

48. M. McLuhan, UNDERSTANDING MEDIA: THE EXTENSIONS OF MAN (Signet ed. 1964). In his chapter on the press, McLuhan discusses the power of the press as a means of communication and a direct cause of events.

In fact, the press is now not only a telephoto mosaic of the human community hour by hour, but its technology is also a mosaic of all the technologies of the community...the mosaic of the press manages to effect a complex many-leveled function of group-awareness and participation such as the book has never been able to perform...The owners of media always endeavor to give the public what it wants because they sense that their power is in the medium and not in the message or the program.

Id. at 192-93.
49. The question of who watches the regulatory agencies entrusted with the administration of the commons (public resources) is discussed in Crowe, The Tragedy of the Commons Revisited, SCIENCE, Nov. 28, 1969, at 1103.

Yet the actual day to day decisions and operation of these administrative agencies contribute, foster, aid, and indeed legitimate the special claims of small but highly organized groups to differential access to tangible resources which are extracted from the commons. This has been so well documented
project and accepts uncritically the project’s numerical or quantitative values as represented by the project’s sponsors.

For example, in a licensing proceeding involving a nuclear power plant, it is customary for the utility and the agency staff to testify that the amount of radioactivity which will be routinely discharged into the environment will not result in more than a negligible radiation dose exposure to the public. In fact, the public is often assured that the dosage will be less than one per cent of the maximum levels of radiation legally allowed by the AEC. The public may not realize, however, that the computation of radiation dosage involves many unverifiable assumptions and meteorological variables. The computation also includes a process of negotiation between the AEC technical staff and the utility as to what assumptions are to be used and what “credits” will be allowed the utility for what are described as “engineered safeguards,” which consist of equipment or systems installed by the utility as part of

in the social sciences that the best answer to the question of who watches over the custodians of the commons is the regulated interests that make incursions on the commons.

Id. at 1106.

50. In the Shoreham proceeding [AEC Docket No. 50-322] the staff's “statement on the Environmental Considerations,” concludes that “the radioactivity levels in liquid or gaseous releases from the Shoreham plant will be well below 10 CFR Part 20 limits.” Transcript at 6.

51. In the Shoreham proceeding, a so-called one percent “commitment” was made by the applicant. AEC Docket No. 50-322, Transcript, Sept. 21, 1970, at 264. Administrative authority for such a pledge is found in the AEC regulations [10 C.F.R. pt. 20 (1970)] which require that power reactor licensees keep releases of radioactivity in nuclear power reactor effluents as low as practicable.

52. Examples of assumptions used by the AEC:
   a) Assumptions used for evaluating the potential radiological consequences of a steam line break accident for boiling water reactor;
   b) Assumptions used for evaluating the potential radiological consequences of a fuel handling accident for boiling & pressurized water reactors;
   c) Assumptions as to behavior of effluent after release;
   d) Assumptions and calculations as to meteorologic behavior and conditions utilizing equations drawn from “Meteorology & Atomic Energy—1968”;
   e) Assumptions for atmospheric diffusion and dose conversion;
   f) Assumptions used for evaluating the potential radiological consequences of a loss of coolant accident for boiling water reactors.

In its Safety Guide No. 3 (Nov. 2, 1970) the staff states that it has developed a number of appropriately conservative assumptions based on engineering judgment and on applicable experimental results from safety research programs conducted by the AEC and the atomic energy industry.

The assumptions used by the AEC for a loss-of-coolant accident have never been tested under accident conditions in a real life situation. The AEC has never actually assessed the reliability of emergency core cooling systems under actual accident conditions in a power reactor and does not plan to carry out such an experiment (the Loft program—(Loss of Fluid Test) ) until 1975 at the earliest. Hearings on AEC Authorizing Legislation, Fiscal Year 1971, Before the Joint Comm. on Atomic Energy, 91st Cong., 2d Sess. 1671, pt. 3 (1970).
These "credits" are factored into the computation of offsite radiation dose so as to reduce the estimate of radiation dose to the public. Unfortunately the calculation of offsite doses takes place behind closed doors and sometimes involves what have been called "knock-down, drag-out" battles.

Evidence of this type can be obtained if one carefully analyzes the nuclear power technology, its assumptions, bases, parameters, its methods of quantification, and the data it relies upon. Cross-examination can bring this information to the attention of the public in a most vivid and understandable way. NEPA provides a juridical basis for inquiring into the need for, the quality of, and alternatives to, a particular technology, and for evaluating its environmental effects. The intervenor should point up, wherever possible, the technology's deficiencies, the degree of its unreliability, the level of its quality-assurance programs, the extent of its verifiable empirical data, its experimental nature, and its risk-benefit calculus. The intervenor should deter-

53. There is no authority for these credits either in the statute or regulations governing the AEC. The word "credit" appeared in the AEC's computation of accident doses in the Shoreham case but was not quantified. Safety Guide No. 3 also refers to credits to be given for special design features but no numerical values are assigned. The claims of the utility and the staff as to the quantity of radiation dose and the risk of radiation are determined by the quantity of "credits" agreed to by the staff after negotiation with the utility, out of public view.

54. Section 102(A) of the National Environmental Policy Act of 1969, 42 U.S.C. § 4332(A) (Supp. V, 1970) requires the agency to use a systematic interdisciplinary approach to insure integrated use of the natural and social sciences and the environmental design arts in decision making. This suggests a line of cross-examination inquiring whether the staff used modern systems computer models and techniques to predict and assess the environmental impact of the project. For example, did the staff study the concentration mechanisms and pathways to man of each radionuclide to be discharged from the atomic plant? 42 U.S.C. § 4332(B)-(C) (Supp. V, 1970). Sections 102(C) and (D) generate cross-examination into the question whether the staff made an independent evaluation of the alleged need for the atomic power project, the fossil fuel alternatives, and their comparative costs and environmental effects. NEPA also lays the basis for rebuttal testimony on the above subjects.

55. Dr. Alfred W. Eipper, a biologist at Cornell University, has suggested that these questions be asked: Who participated in formulating the assumptions and conclusions about this program's desirability? What lasting social benefits—and costs—will this program produce? Who will derive these benefits? What environmental problems will, or may be, created? What alternatives exist? Has the relative desirability of not enacting the program been evaluated? Eipper, Pollution Problems, Resource Policy and the Scientist, SCIENCE, July 3, 1970, at 13.

56. A quality assurance program is required to be established and implemented in order to provide adequate assurance that the nuclear power plant structures, systems and components will satisfactorily perform their safety functions. 10 C.F.R., pt. 50, app. A (1970) (General Design Criteria for Nuclear Power Plants). Where generally recognized codes and standards are used, the utility is required to identify and evaluate them to determine their applicability, adequacy and sufficiency
mine for itself whether there is a need for the project, whether the particular design is the best available under the proven state of the art for the subject technology, how the project can be improved and at what cost, and whether there are preferred alternatives.

The intervenor should examine the technology from the standpoint of the disciplines and rationale of other technologies employing superior techniques, practices or procedures in dealing with similar problems of fabrication, testing, maintenance, inspection, and materials and systems analysis. For example, the nuclear power industry is constantly being exhorted to develop standards for its components and systems and to emulate the aerospace industry in developing superior quality-assurance programs. Although the respective technologies develop unevenly and at different paces, and thus are in different states of advancement and rationalization, knowledge of these deficiencies arising from the comparison opens up productive lines of cross-examination designed to show the ways in which nuclear power plant facilities and equipment can be improved upon and made more safe and reliable. Widening the scope of the agency inquiry to include basic technology can provide useful ammunition in challenging an environmentally hazardous project.

and to supplement or modify them as necessary to assure a quality product in keeping with the required safety function.

Verifiable empirical data on problems related to safety and protection of the environment are needed to reduce reliance on untested assumptions. For example, the assumption that an emergency core coolant system or other vital component will function when needed during operation under accident conditions must be replaced by proof of their reliability based on data drawn from actual testing of such equipment under accident conditions, as is proposed in the Loft program. See note 52 supra. Similarly, the assumption that radioactive or thermal discharge from the plant will not harm the aquatic environment must be replaced with evidence gained from comprehensive pre-operational systems analysis, ecological studies utilizing predictive models and computer techniques, and verification through post-operational ecological surveys determining the impact of such wastes on the environment.

A balance of the risks and benefits of nuclear power requires that the social costs attributable to nuclear power generation and distribution be quantified. Among the many factors that should be considered on the cost side are:

a) dollar cost of pollution-related illnesses in terms of medical costs and loss of work;

b) property damage associated with air pollution;

c) loss of commercial fishing resources owing to thermal or radioactive pollution;

d) loss of recreational land and water;

e) calculating the cost of somatic and genetic harm resulting from radiation exposure.

Toward a Rational Power Policy: Reconciling Needs for Energy & Environmental Protection, Apr. 1971 (submitted to the Mayor's Interdepartmental Committee on Public Utilities by the Environmental Protection Administration of the City of New York).


See also Rickover, Who Protects the Public?, MATERIALS EVALUATION, Dec. 1968.
IV
ORGANIZATION AND TECHNIQUES USEFUL IN MULTI-MEDIA CONTESTS

It is well known that contested agency hearings involving the licensing of large, complex projects can last many months and wear out the poorly staffed, insufficiently funded intervenor through the process of attrition. One must assume that in most environmental cases, the intervenor will not have adequate resources to match the legal and technical forces of the applicant and the agency. The environmental intervenor must therefore innovate. A new lawyer-client relationship must be developed which reflects the nature of the struggle as a part legal, part political campaign. The lawyer and his client, the environmental organization, must create a team composed of the lawyer, technical consultants, layman interrogators, evidence gatherers and political activists. The team must carefully utilize its expert resources and non-legal members to achieve a "no win" success.

A. Procedural Tactics That Educate

The right to cross-examine is a particularly potent tool in an agency proceeding. The lawyer-citizen team should immediately set about gathering material for a comprehensive cross-examination. Many scientists and technical experts, who may be reluctant to testify, will nevertheless cooperate at minimal or no charge in furnishing excellent questions to be posed on cross-examination of the applicant and the agency's technical staff. The scientific and academic community in those disciplines related to the issues in the proceeding should be can-
vassed for cross-examination questions and references which can provide additional sources of questions. The friends of conservation are quite numerous in all professional and technical fields and their cooperation is essential if a broad challenge is to be undertaken. NEPA also provides a fertile source of questions for the intervenor. It gives him the opportunity to probe into the studies and reports that have been made by the applicant or agency staff concerning the environmental effects of the proposed project, and to cross-examine regarding the data substantiating the assumptions and conclusions of such studies or reports.

The use of cross-examination to discredit or expose bias may not be as important as its use to educate the public regarding the realities of the particular project and its impact on the environment. The cross-examination must expand into a general inquiry into the bases of the challenged technology and must focus on what is known and unknown about the project's environmental effects. Extensive use must be made of the scientific literature on these subjects during the cross-examination of the experts who testify. In this way, the cross-examination can reveal the issues which are in dispute within the scientific community and the gaps in scientific knowledge. The agency proceeding becomes a sort of free public university in which the counsel and his lay interrogators function as the faculty. Their stance is that of skeptic and their role is to insure that all the important questions are asked. The adversariness of the "no-win" agency proceeding is more than a process of discrediting or rebuttal of the proofs of the applicant and the agency. The adversary posture is essential to achieve a dialogue among the citizen, the applicant and the regulatory authority. The outcome of this process is a body of knowledge tested in the crucible of cross-examination.

The use of cross-examination to generate a broad scientific investigation of the claims of the applicant and agency means a long hearing and precludes any early decision to issue a permit to applicant. This may provoke an effort by the applicant or agency to curtail the cross-examination. The intervenor must vigorously resist any suppression of its right to cross-examine as a violation of the Administrative Procedure Act and of the due process requirements of a public hearing. While the AEC has given its official sanction to the concept of the

62. See note 54 supra.
63. 5 U.S.C. § 556(d) (Supp. V, 1970) provides that a party is entitled "to conduct such cross-examination as may be required for a full and true disclosure of the facts."
agency hearing as an educational forum, its own objective is to persuade the public that its staff's position is valid. The counter-objective of the intervenor environmentalist must be to test the validity of the agency's position by giving the proceeding the depth and dimensions of a truly critical scientific inquiry.

The intervenor should also use motions for examination, discovery and inspection, physical view of the project site and facilities and other motions or objections on procedural and evidentiary points as devices to educate the public while serving their customary objectives. For example, a motion requiring that the utility disclose the quantity of radiation which will be discharged by the plant and requesting that the utility and AEC disclose their calculations of offsite radiation levels can be made meaningful to the public when it is explained that such information is a prerequisite to determining whether such radiation will have an adverse effect on humans or fish and wildlife. The intervenor must develop a strategy of motions and objections which, when allowed, achieve their intended purpose or, when disallowed, cast the agency or applicant in the role of obstructing the quest for truth. These alternative results can only be achieved if the intervenor's motions and objections are credible efforts to guarantee a flow of relevant information of interest to the public.

The technique of requesting the licensing board to take official notice of scientific facts and governmental agency reports is another indispensible means of developing the agency hearing into an educational forum. It is likely that voluminous information relevant to the issues in an agency hearing has been gathered by the government and is reported in its publications or in transcripts of Congressional hearings. This material may provide valuable cross-examination questions or damning evidence against the proposed project. Counsel should also be alert to


See also AEC News Release, Nov. 25, 1970, in which AEC Commissioner James T. Ramey says:
As to hearings, I remain of the view that a public hearing is desirable, even a necessary part of such a system [the reactor licensing system]. A hearing of course means some delay in the total licensing process. Delay however is the social cost we pay for the social benefit we derive from public participation in agency decisionmaking.

66. Hearings on Licensing & Regulation of Nuclear Reactors Before the Joint Comm. on Atomic Energy, supra note 65, at 151 (Testimony of Dr. David B. Hall).

67. 10 C.F.R. pt. 2 (1970) authorizes discovery rights and evidence gathering procedures in AEC licensing proceedings, see id. § 2.720 (subpoenas); id. § 2.740 (depositions and written interrogatories); id. § 2.742 (admissions); id. § 2.743(e) (offer of proof); id. § 2.743(i) (official notice).

68. Hearings on Licensing & Regulation of Nuclear Reactors Before the Joint Comm. on Atomic Energy, supra note 65, parts 1 & 2.
the potential treasure trove of evidence obtainable only through application for subpoenas to compel the testimony of government scientists and officials and the production of data generated through government-financed research.\textsuperscript{69} The outer limits of relevant evidence obtainable through the Freedom of Information Act\textsuperscript{70} should also be explored in the agency proceeding. In short, all of the evidence-gathering devices available to counsel should be exploited to aid his main objective of transforming the agency proceeding into an educational happening.

\textbf{B. Lay Interrogators}

Invariably, the intervenor will encounter technical aspects of the project or its environmental effects which are too complicated or esoteric for the layman or his attorney to grasp and develop into effective cross-examination. Under the Rules of Practice of the AEC,\textsuperscript{71} this problem may be solved by the use of technically qualified lay interrogators who are permitted, after establishing their qualifications, to cross-examine in their area of specialty.

The use of non-lawyer technical expert cross-examiners has other advantages. The expert may be someone unwilling or unable to testify directly on the intervenor's side.\textsuperscript{72} By cross-examining in behalf of the intervenor, the expert, sometimes a scientist of wide repute, associates himself with the intervenor's cause and is so identified by the media. The appearance of such lay cross-examiners can enliven the proceeding and stimulate news coverage and public interest. The lawyer must, of course, teach his technical experts how to ask a proper question on cross-examination and must be prepared to rescue his lay cross-examiner if he falters into questions subject to objection.

The Administrative Procedure Act\textsuperscript{73} neither grants nor denies to an individual who is unqualified (\textit{i.e.}, who is not a lawyer) the right

\begin{footnotes}
\item[69] 10 C.F.R. pt. 2, § 2.720 (1970) authorizes the issuance of subpoenas on a showing of general relevance of the testimony or evidence sought, subject to a motion to quash or modify the subpoena if it is unreasonable or requires evidence not relevant to any matter in issue.
\item[71] At the request of a party, a presiding officer may permit a qualified individual who has scientific or technical training or experience to participate on behalf of that party in the examination and cross-examination of expert witnesses. Rules of Practice, 10 C.F.R. pt. 2, § 2.733 (1970).
\item This Article is based primarily on the experience of the author in an AEC proceeding. If the rules of practice of other administrative agencies do not expressly authorize the use of technically qualified lay interrogators, it is conceivable that an application for an order permitting lay cross-examination might be granted, if good cause is shown.
\item[72] See note 22 \textit{supra}.
\end{footnotes}
to appear for or to represent a person before an agency or in an agency proceeding. Nevertheless, if the Administrative Procedure Act is liberally interpreted, the intervenor’s counsel might request and be granted permission to use a qualified consultant interrogator to cross-examine in technical subjects too difficult for counsel to prepare for and pursue within the time allotted for the hearings.

Suppose, however, that the intervenor is unable to afford counsel to represent it in the agency proceeding. It has not yet been firmly decided whether an indigent intervenor has the right to represent himself in an agency proceeding and whether an organization which cannot afford counsel can send a lay member to ask questions and present evidence on its behalf. Arguably, the denial of this right would negate the “public hearing” requirement and could even constitute a denial of due process. If the issue is decided in favor of the indigent intervenor, giving him full right to confrontation and cross-examination of witnesses at the hearing, then it would seem logical that the intervenor who has a lawyer should be allowed to use lay interrogators as well.

These issues may well be raised in future agency proceedings. An agency proceeding might involve, for example, a project detrimental to the environment of an impoverished rural or ghetto area whose residents are entitled to intervene but are without the financial means to retain counsel to represent them before the agency. In such a case, the only meaningful right of the citizen is his right to cross-examine the applicant and agency staff and call upon them to account at a public hearing. Our jurisprudence acknowledges the right of the indigent defendant charged with a crime to have the benefit of counsel. The term “indigent” should also be expanded to include the citizen group with meager funds which intervenes in an environmental case to contest a project sponsored by a powerful corporation and its patron agency. The courts have ruled that there is no right to counsel in an agency proceeding. However, if one accepts the premise of an indigent intervenor whose environmental rights may be injured, the concept of due process should be extended to recognize the right of such indigent intervenor to

74. Id. Local Union No. 742, United Broth. of Carpenters & Joiners of America v. N.L.R.B., 377 F.2d 929 (D.C. Cir. 1967), cert. denied, 389 U.S. 843 (1967), noted that a union had the right to be represented by its business agent rather than by counsel.
75. See note 71 supra. Query whether the Administrative Procedure Act, 5 U.S.C., §§ 500(d)(1) and 555(b) (Supp. V, 1970) should be interpreted as authorizing the use of lay interrogators by an intervenor who is also represented by counsel.
be provided with counsel or, at the very least, to be represented by a lay-
man of its choice.

The right of citizens to organize themselves and to litigate envi-
ronmental cases with professional or lay representation, or a combina-
tion of both, is essential if they are to have a fighting chance to resist
the corporate-agency alliance. If such right is not guaranteed, citizens
in many parts of the country will be helpless to defend their environ-
mental rights and will have inflicted upon them by default projects
which degrade the quality of their environment.

CONCLUSION

This Article attempts to focus interest on the agency proceeding
as a means of achieving a future political remedy when a present ad-
ministrative or judicial remedy is unattainable. Success in winning the
ultimate environmental objective requires maximum use of the media
and arts of communication in dramatizing the confrontation between
the citizen and his corporate and agency adversaries. All of the skills
of counsel and his dedicated lay and scientific allies must be exerted to
educate the public in understanding the nature of the particular tech-
nology and its environmental effects and to induce the public to demand
the ecological ideal.78

The question has been asked, "What are the prospects given the
character of America's dominant institutions, for the fulfillment of this
ecological ideal?"79 The answer will depend on the outcome of the cur-
rent environment crusade, but administrative strategy which conceives

78. The current environmental interest and the role of the media, has been de-
scribed in these words:

Toward the end of the 1960's there was a sudden upsurge of public interest
in the subject. The devastation of the environment and the threat of over-
population became too obvious to be ignored. A sense of anxiety close to
panic seized many people, including politicians and leaders of the communi-
cations industry. Television gave prime coverage to a series of relatively
minor yet visually sensational ecological disasters. Once again, as in the cov-
erage of the Vietnam war, the close-up power of the medium was demon-
strated. The sight of lovely beaches covered with crude oil, hundreds of dead
and dying birds trapped in the viscous stuff, had an incalculable effect upon
a mass audience. After years of indifference, the press suddenly decided that
the jeremiads of naturalists might be important news, and a whole new vo-
cabulary (environment, ecology, balance of nature, population explosion, and
so on) entered common speech. . . . By the summer of 1969, it had become
evident that the media were preparing to give the ecological crisis the kind
of saturation treatment accorded the civil rights movement in the early 1960's
and the anti-Vietnam War protest after that.

Marx, American Institutions and Ecological Ideals, SCIENCE, Nov. 27, 1970, at 945.
Examples of popular magazine coverage of the AEC controversy include The Contro-
versial Atomic Energy Commission, NEWSWEEK, Jan. 4, 1971, at 37; Boyle The Nukes
are in Hot Water, SPORTS ILLUSTRATED, Jan. 20, 1969, at 24; and The Nuclear Threat
Inside America, supra note 38.

79. Marx, supra note 78, at 945.
of the effect of the agency proceeding as a dramatic event perceived by the media and the public can preserve resources until institutions evolve to serve society's environmental needs. Thus the strategy suggested here for the "no-win" agency proceeding is an essential part of the environmental crusade, and a step in the direction of the fulfillment of the ecological ideal as an American institution.