

Appendix 1. To Rebuttal Report of Michael Edelstein

Excerpt from Contaminated Communities: Coping with Residential Toxic Exposure, 2nd Edition. Boulder: Westview Press, 2004.

The most significant early test of the need to consider psychological impacts under NEPA occurred with the restart the Three Mile Island (TMI) nuclear reactor I, on routine shut down at the time of the 1979 accident at its sister plant, TMI II. A lengthy legal battle ensued after the Nuclear Regulatory Commission (NRC) denied a request by a Harrisburg grassroots group called People Against Nuclear Energy (PANE) that they consider stress due to the restart. In 1982, the U.S. Appeals Court for the District of Columbia found for PANE, the majority concluding that NEPA requires an examination of psychological health and that a regulatory decision such as that before the NRC constitutes an action under NEPA.^{EN112} In his dissent, Judge Wilkey lamented that the decision would “let any special interest group effectively repeal an act of Congress if it could whip up sufficient hysteria.”^{EN113}

The court majority limited the scope of its decision, concluding that NEPA “does not encompass mere dissatisfactions arising from social opinions, economic concerns, or political disagreements with agency policies.” As such, the court distinguished between “true psychological stress” caused by an action, such as posttraumatic anxiety and physical effects due to “fears of recurring catastrophe,” and more routine “socioeconomic anxieties,” such as middle-class homeowners’ feelings about a proposed land use they found to be undesirable. The majority also found relevant the severity of the psychological effect, as well as its cognizability under NEPA. Finally, the court concluded that it need not “draw a bright line” distinguishing TMI from other instances because the TMI “is, at least so far, the only event of its kind in the American experience.”^{EN114}

A more troublesome qualification occurred when the NRC and Metropolitan Edison, owner of the TMI plants, appealed to the U.S. Supreme Court. These appeals asserted that there

^{EN112} Jordan 1984; *People Against Nuclear Energy v. NRC* 1982, 1352; see also Marshall 1982.

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had been no physical effect at the TMI I plant necessary to trigger NEPA review and that, even if there had been, psychological harm can not be validly measured so as to be considered by a permitting agency. These arguments were rebutted by the American Psychological and Sociological Associations, who argued that Congress intended NEPA to review psychological impacts, citing numerous studies of stress due to the accident at TMI II as evidence of proximate psychological damage from restarting TMI I. APA also supported use of measurements of perception to assess psychological impact. {EN115}

Nevertheless, the Supreme Court unanimously rejected PANE's arguments. Justice Rehnquist's decision concluded that the causal chain between risk perception and the restart of the TMI I reactor was too long. Specifically, Rehnquist wrote, "But a risk of an accident is not an effect on the physical environment. A risk is, by definition, unrealized in the physical world." {EN116} The accident at TMI II was further deemed irrelevant because it was a past action and occurred at a different plant than the one under review by the NRC.

The Supreme Court's ruling in the PANE case was not intended to exclude psychological impacts altogether from NEPA review. Rather, as Justice Brennan clarified in his concurring opinion, such impacts must be assessed in response to "direct sensory impact of a change on the physical environment," but not due merely to the "perception of risk." A clear causal link between an event and its psychological impact is established when psychological effects are seen as secondary or indirect consequences of an action, not merely as risks of a possible

{EN115} See my review of these issues in Edelstein 1989a.

{EN116} U.S. Supreme Court 1983. See also Edelstein 1989; Sorensen et al. 1987; Llewellyn and Freudenburg 1989; Hartsough 1989; Hartsough and Savitsky 1984; and Jordan 1984. Note the influence of *PANE v. NRC* on the Department of Energy's siting guidelines for the environmental review of the high-level nuclear waste repository printed in the Federal Register on December 6, 1984. The DOE wrote, in part, "The DOE recognizes that the risk of new technologies involving hazardous materials may be perceived to be greater by the general public than it is by technical experts (...). Perceived risk, however, is not an appropriate topic for general repository-siting guidelines; it is a subjective condition that cannot be fairly compared among sites (...). Past experience with other new technologies suggests that the anxieties of the public may be alleviated as the technology is seen to be effective and its benefits become more apparent (...)." Overall, the DOE views fear as mitigable, to be alleviated, in part, by an open review process.

accident.^{EN118} Of course, as we have seen throughout this volume, contamination events, even of an anticipatory nature, are more than ephemeral perceptions of risk. Rather, they involve the direct sensory impacts about which Brennan wrote.

Nevertheless, the PANE decision had a chilling effect on subsequent opportunities to consider psycho-social impacts in NEPA review. Freudenberg and Jones have challenged the wisdom of the higher court's reasoning, testing "the Supreme Court hypothesis" that stress measurements would be unable to distinguish those suffering from genuine psychological stress due to the restart of TMI I from those merely opposed to the facility. The Court presumed that facility opponents would also test with significant psychological stress, confounding the issue of who is psychologically damaged and who merely politically opposed. Freudenberg and Jones find no social science literature supporting the Court's view; what's more, their analysis of data on the siting of a Washington nuclear plant suggests no correlation between opposition and perceived stress. In refuting the Court's concern that social scientists cannot distinguish impact from concern, the authors suggest that the justices asked the wrong question. "The relevant question, in fact, may have to do not with the capabilities of social sciences, but with the capabilities of *courts*, particularly for dealing with the range of problems that appear to have accompanied many of the technological developments of recent decades."^{EN117}

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/s/

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^{EN118} U.S. Supreme Court 1983. See also Edelstein 1989; Jordan 1984; Sorensen et al. 1987; Llewellyn and Freudenburg 1989; Hartsough 1989; and Hartsough and Savitsky 1984.

^{EN117} Freudenberg and Jones 1991, 1162–1163.