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## Energy, Environment and LNG: Perceptions and Perspectives of Kaleidoscopic Issues

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# Energy, Environment and LNG: Perceptions and Perspectives of Kaleidoscopic Issues

ROBERT E. LUTZ

## I. ENVIRONMENT AND ENERGY IN THE SEVENTIES: SOME PERSPECTIVES

As the keynote speaker for this Symposium, which looks forward to the next decade, I think it appropriate to pause, to look over our shoulder, as a historian might say, to the environmental decade and the energy crisis of the Seventies. While nostalgia is not my forte and my perspective of that particular period may be somewhat blurred, my professional upbringing did occur during the Seventies, providing me with some personal experiences and an understanding of the forces and events that were at work and have influenced where we are today.

### A. *The Environmental Decade: Successes and Lessons*

Consistent with the intellectual and political ferment of those times, it was quite appropriate that the environment be *the* issue of the Seventies.<sup>9</sup> It focused our attentions on the quality of life

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9. While environmental issues were certainly important prior to 1970, public consciousness and legislative initiative to address environmental problems seemed to converge early in that decade. For an excellent chronicle of the developments and issues of the 1970's, see the Annual Reports of the U.S. Council on Environmental Quality, published annually from 1970 to present. Noteworthy was the signing into law on January 1, 1970, the National Environmental Policy Act, 42 U.S.C. §§ 4331 *et seq.*, which became a major weapon in the arsenal of environmental litigators. See F. ANDERSON, *NEPA IN THE COURTS* 15-23 (1973). The Act also became an important impetus for the development of environmental departments and personnel in agency infrastructures. See R. LIROFF, *A NATIONAL POLICY FOR THE ENVIRONMENT* 74-141 (1976). For a description of states' parallel development, see Yost, *NEPA's Progeny: State Environmental Policy Acts*, 3 ELR 50090 (1973) and Comment, "*Little NEPA's*" in the Courts: *Washington and Montana Environmental Policy Acts are Alive and Well*, 6 ELR 10216 (1976). For environmen-

that we wanted to enjoy during our lifetimes, and it responded to our sense of obligation for future generations.<sup>10</sup> It also was a fitting synthesis of past public concern, enabling us, to the disdain of some, to divert our attentions from an ugly war which we could not understand, could not seem to influence through political channels, and in which many were reluctant to participate.<sup>11</sup> At a time of relative prosperity, the environmental issue enabled us to better our lot by dealing with some very pressing concerns, overlooked or ignored in the past, and to work at developing tools which would allow us to plan for our future. It had all the elements of an ideal public issue which could energize the hearts and minds of our fellow countrymen.<sup>12</sup>

The successes of the early part of that decade were tremendous. A spate of laws was passed by state and federal legislatures<sup>13</sup> which was unequaled in scope, complexity, and length,

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tal impact reporting requirements, see R. Lutz, *Foreign Country, Regional and International Environmental Assessment Requirements*, in INTERDEPENDENCE—THE LAW OF THE ENVIRONMENT 95-107 (1976). See generally W. RODGERS, ENVIRONMENTAL LAW 697-834 (1977).

This was also a period during which environmental law courses were included in the curriculum of almost every law school, many schools of planning and some engineering schools. A sort of cross-disciplinary natural science-social science major, usually entitled Environmental Studies, was created at many universities. A number of specialized law journals dedicated to exploring the legal, scientific and social issues of the environment were also inaugurated, for example, the ECOLOGY LAW QUARTERLY, which was published by the students of the University of California at Berkeley (Boalt Hall) in late 1970. Numerous public interest law groups were spawned primarily with the assistance of foundations such as the Ford Foundation, the Natural Resources Defense Council (NRDC), the Sierra Club Defense Fund, the Environmental Defense Fund, the Center for Law and Social Policy (Washington, D.C.), and the Center for Law in the Public Interest (Los Angeles).

10. A number of books and articles assisted this focus and have become classics in the environmental field. See, e.g., R. CARSON, SILENT SPRING (1962); A. LEOPOLD, A SAND COUNTY ALMANAC (1949) (republished 1966); R. RIENOW and L. RIENOW, MOMENT IN THE SUN (1967); B. COMMONER, THE CLOSING CIRCLE (1971); G. Hardin, *The Tragedy of the Commons*, 162 SCIENCE 1243 (1968); and Boulding, *The Economics of the Coming Spaceship Earth*, ENVIRONMENTAL QUALITY IN A GROWING ECONOMY 3-14 (H. Jarrett ed., 1971). See also Meyers, *An Introduction to Environmental Thought: Some Sources and Some Criticisms*, 50 IND. L.J. 426 (1975).

11. One of the most popular books of this era which dealt with such political/cultural themes was Charles A. Reich's book, GREENING OF AMERICA (1970).

12. Not to be overlooked is that many other countries were experiencing similar phenomena. See R. Lutz, *The Laws of Environmental Management: A Comparative Study*, 24 AMER. J. COMP. L. 447 (1976).

13. Some of the major federal environmental laws passed by Congress included: the National Environmental Policy Act of 1969, 42 U.S.C. §§ 4331 *et seq.* (1976); Clean Air Act of 1970, as amended by the Clean Air Act Amendments of 1977, 42 U.S.C. §§ 7401-7642 (1976 & Supp. II 1978); the Federal Water Pollution Control Act Amendments of 1972, as amended by the Clean Water Act of 1977, 33 U.S.C. §§ 1251-1376 (1976 & Supp. II 1978); the Occupation Safety and Health Act of 1970, as amended, 29 U.S.C. §§ 651-78 (1976); the Toxic Substances Control Act of 1976, 15 U.S.C. §§ 2601-2629 (Supp. I 1977); the Resources Recovery and Conservation Act of 1976, 42 U.S.C. §§ 6901-6987 (Supp. I 1977); the Marine Protection, Re-

and was baffling to even the finest legal minds or most brilliant scientists.<sup>14</sup> Often operating in areas of unknown technology, lawmakers employed innovative legislative techniques<sup>15</sup> and delegated broad, discretionary powers to burgeoning bureaucracies.<sup>16</sup> The courts, normally untrained in scientific and technical matters,<sup>17</sup> were the appointed settlers of disputes, frequently involv-

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search and Sanctuaries Act of 1972, 33 U.S.C. §§ 1401 *et seq.* (1976); the Federal Insecticide, Fungicide and Rodenticide Act, as amended, 7 U.S.C. §§ 135-136y (1976); the Safe Drinking Act, 42 U.S.C. §§ 300f *et seq.* (1976); the Wilderness Act of 1974, 16 U.S.C. §§ 1131-1136 (1976); and the Noise Control Act of 1972, as amended by the Quiet Communities Act of 1978, 42 U.S.C. §§ 4901-4918 (1976 & Supp. III 1979). For a useful collection of these laws, see WEST PUBLISHING CO., SELECTED ENVIRONMENTAL LAW STATUTES (1981). A description of some of these laws and their regulatory and judicial interpretations are contained in W. RODGERS, *supra* note 9, and F. GRAD, ENVIRONMENTAL LAW TREATISE, Vols. 1 and 2 (2d ed. 1978). The state of environmental law in the middle of the decade is effectively analyzed in DOLGIN and GUILBERG, eds., FEDERAL ENVIRONMENTAL LAW (1974).

14. A perusal of the Clean Air Act of 1977 (CAA) will convey this point. For an overview of the basic programs created by the CAA, see Lutz, *Managing a Boundless Resource: U.S. Approaches to Transboundary Air Quality Control*, 11 ENV'T L. 321, 324-54, 356-67 (1981).

15. Motivated to achieve such regulatory goals as efficiency in enforcement, compliance and technological incentives, cost-benefit assessments, and compensation for environmental damage, legislators experimented with such approaches as marketable permits, trade-offs (or set-offs), bubbles, effluent charges, noncompliance penalties and various compensation schemes. See FINDLEY and FARBER, ENVIRONMENTAL LAW—CASES AND MATERIALS, 268-296 (1981); and STEWART and KRIER, ENVIRONMENTAL LAW AND POLICY, READINGS, MATERIALS AND NOTES (2d ed. 1978).

16. *E.g.*, Ethyl Corp. v. Environmental Protection Agency, 541 F.2d 1 (D.C. Cir. 1976) (en banc), *cert. denied*, 426 U.S. 941 (1977); Reserve Mining Co. v. EPA, 514 F.2d 492 (8th Cir. 1975); and Industrial Union Dep't, AFL-CIO v. American Petroleum Institute, 100 S. Ct. 2844 (1980) (also known as the Benzene Decision).

While many environmental statutes straddle the thin line between specifying standards and conferring unbridled discretion to agency administrators to set standards through rulemaking, the technologically uncertain subjects of most environmental laws make this approach quite difficult for most legislatures to undertake. To some extent, the watchman's role has been relegated by default to the courts, which have historically (at least for the past half-century) allowed the exercise of broad agency discretion under the "delegation doctrine." More recently, this judicial deference to the executive branch has been brought into question. See Davis, *A New Approach to Delegation*, 36 U. CHI. L. REV. 713 (1969); DAVIS, DISCRETIONARY JUSTICE: A PRELIMINARY INQUIRY (1969); DAVIS, ADMINISTRATIVE LAW TREATISE § 3.15 (2d ed. 1978); Wright, *Beyond Discretionary Justice*, 81 YALE L.J. 575 (1972); and *Symposium—Administrative Discretion*, 37 L. & CONTEMP. PROBS. 1-215 (1972). A thoughtful discussion of these issues in light of the Benzene Decision is Rodgers, *Judicial Review of Risk Assessments: The Role of Decision Theory in Unscrambling the Benzene Decision*, 11 ENV'T L. 301 (1980).

17. See *e.g.*, Bazelon, *Coping with Technology Through the Legal Process*, 62 CORNELL L. REV. 817 (1977); Levinthal, *Environmental Decisionmaking and the Role of the Courts*, 122 U. PA. L. REV. 509 (1974); and Bazelon, *Science and Uncer-*

ing complex technological evaluation and statutory interpretation.<sup>18</sup> The courts eagerly undertook this task (a role which courts traditionally shun),<sup>19</sup> which had complicated and often contradicted economic, political, and scientific underpinnings and implications. A national consciousness about environmental problems and crisis developed.<sup>20</sup> Commencing as the Environmental Movement, it quickly became not a movement at all, but rather a broadly based citizens' concern for issues of local, as well as national, scope relevant to everyone's quality of life. The educational contribution of this process generated a greater public understanding of the relationship of man to nature and to technology. It created a new understanding of the carrying capacity of our land. Economic growth did not have to take a back seat to environmental control; they could co-exist.<sup>21</sup> In fact, for the long-term health of our fragile planet, they must.<sup>22</sup>

These aspects of the environmental decade, however, had their costly baggage and share of lessons. In one sense, we discovered that such complex problems are so interrelated with the social, economic, and political fabric of our society that they are not solvable by the statutory stroke of a pen, no matter how ingenious the design of a law. While crushing to every legislator's, and perhaps every lawyer's ego, having a law on the books does not make it conclusive that the problem is, or can be, solved. Second, programmatic coherence and facility enforcement effectiveness, and sufficient personnel (in terms of training and numbers) were found in some instances to be grossly deficient.<sup>23</sup> Third, the idea

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*tainty: A Jurist's View*, 5 HARV. ENV'TL L. REV. 209 (1981) (hereinafter cited as Bazelon II).

18. *E.g.*, *International Harvester Co. v. Ruckelshaus*, 478 F.2d 615 (D.C. Cir. 1973).

19. *Id.* These difficulties, especially the need courts have to resolve disputed scientific and technical issues, have generated proposals for an "Environmental Court" or "Science Court." See Martin, *The Proposed "Science Court,"* 75 MICH. L. REV. 1058 (1977) and Comment, *Attorney General's Report Rejects Establishing an Environmental Court*, 4 ELR 10019 (1974).

20. *See RESOURCES FOR THE FUTURE, PUBLIC OPINION ON ENVIRONMENTAL ISSUES: RESULTS OF A NATIONAL PUBLIC OPINION SURVEY* (U.S.G.P.O., 1980). A public opinion poll conducted by Opinion Research Corporation in 1977 also advised: ". . . [E]nvironmental protection no longer is the exclusive domain of a handful of professional social critics and environmental activists, but the continuing concern of the public as a whole." COUNCIL ON ENVIRONMENTAL QUALITY, ENVIRONMENTAL QUALITY—THE ELEVENTH ANNUAL REPORT OF THE COUNCIL ON ENVIRONMENTAL QUALITY 423 (1980).

21. *See id.*, at 408-9, *see also* SCHUMACHER, *SMALL IS BEAUTIFUL, ECONOMICS AS IF PEOPLE MATTERED* (1973).

22. *See* Boulding, *supra* note 10, and Hardin, *supra* note 10.

23. For example, when the decade began, few were sufficiently trained in cross-disciplinary subjects to do the sort of impact analysis required by environmental impact statements. Industry personnel and the new governmental agencies' recruits had an insufficient background. Universities could supply only an

that our institutions are capable of any task, if only provided the authority, was seriously shaken. Specialized agencies proved incapable of mastering their destinies, much less issuing timely, legislatively prescribed rules.<sup>24</sup> Legislatures demonstrated that they were ill-equipped to creatively address the difficult issues of a highly technological society and yet resist the entreaty of special interest.<sup>25</sup> Although many will disagree, the courts also have not proven fully qualified to handle the social, political, economic, and technological questions that the legislators have left for them.<sup>26</sup> Fourth, while we focused virtually all our attention on the problems of our environment, the world was changing politically, economically, and ecologically. The decisions and alliances that would have a profound impact on our future global environment were being formulated without our full participation or contribution.<sup>27</sup>

So, the decade that began with a bang literally heard "round

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inexperienced and untrained labor force most of whom had a scientific or technical background in single disciplines. Consequently, the early Seventies was a period of on-job training.

24. Many environmental statutes contain deadlines for the issuance of standards, reports, etc. But because of the difficulty of the prescribed task, information shortages, required interagency or intergovernmental consultation, insufficient personnel to carry out the task, and the lack of an adequate sanction or remedy for such noncompliance, many of the deadlines have not been met. In defense of the agencies, many deadlines were set unreasonably short.

25. Every major environmental issue became the battleground of environmental interest groups (for example, Sierra Club) and industry organizations (for example, Chamber of Commerce, American Petroleum Institute). *See also Commission Recommendations*, in *Env't'l Rptr—Current Developments (BNA) 2074-2080* (Mar. 6, 1981) [hereinafter cited as *Commission*].

26. *See* note 16 *supra*; *contra*, SAX, DEFENDING THE ENVIRONMENT: A STRATEGY FOR CITIZEN ACTION (1971); and Lutz and McCaffrey, *Standing on the Side of the Environment: A Statutory Prescription for Citizen Participation*, 1 *ECOL. L.Q.* 561 (1971).

27. *See* O. SCHACTER, *SHARING THE WORLD'S RESOURCES* (1977); Declaration on the Establishment of a New International Economic Order, May 1, 1974, U.N.G.A. Res. 4201 (S-VI), 6 (Special) U.N. GAOR, Supp. (No. 1) 3, U.N. Doc. A/9559 (1974), reprinted in 13 *I.L.M.* 715 (1974); Program of Action on the Establishment of a New International Economic Order, May 1, 1974, U.N.G.A. Res. 3202 (S-VI), 6 (Special) U.N. GAOR, Supp. (No. 1) 5, U.N. Doc. A/9559 (1974), reprinted in 13 *I.L.M.* 720 (1974); and LUTZ, *Directions of Environmental Law in the International System: An Assessment of Tasks and Challenges for Lawyers*, in *ENVIRONMENTAL POLLUTION AND INDIVIDUAL RIGHTS: AN INTERNATIONAL SYMPOSIUM* (McCaffrey and Lutz, eds., 1978). *See also* MIKDASHI, *The OPEC Process*, 104 *DAEDALUS* 207 (1975); THE INDEPENDENT COMMISSION ON INTERNATIONAL DEVELOPMENT, *NORTH-SOUTH—A PROGRAM FOR SURVIVAL* (1980) ("Brandt Commission Report"); and Council on Environmental Quality and Department of State, *The Global 2000 Report to the President*, Vol. I (Summary Report), Vol. II (Technical Report) (1980).

the world,"<sup>28</sup> concluded not so much with a whimper, but with a sigh—a sigh of relief from those who had opposed environmental legislation and the overreaching of government, and a sigh of exhaustion from those who had worked unrelentingly to encourage the adoption of programs designed to improve the quality of life.<sup>29</sup> One might well query: why should a movement with such promise, high aspirations, and broad support conclude the decade with merely a sigh?

*B. Energy Crises—1973, et seq.*

A possible explanation to the above question is that the wind was taken out of the environmental sail by the Arab Oil Embargo of 1973 and the subsequent governmental and public obsession with the energy crisis.<sup>30</sup> Of course, the energy crisis had been brewing for some time, and its prospect for widespread economic and social dislocation was known to those who watched Arab politics and international affairs.<sup>31</sup> However, the United States' vulnerability to the foreign manipulation of energy supply and price was a surprise to many, and the 1973 Oil Embargo quickly made energy the major issue of the times. It affected our politics, economics, foreign policy, and national security. In its relatively short life, it had a number of lasting consequences. The embargo made the American public conscious of the widening gap between energy consumption and domestic production and of our unaccustomed, but growing dependence on foreign supplies. Energy prices which had lagged behind for many years were suddenly climbing at a rate which placed them well beyond the rate of inflation.<sup>32</sup> Attention was focused on our public institutions' abilities to present a coherent national policy to deal with energy problems and to generate domestic development programs.<sup>33</sup>

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28. The environmental issue was "internationalized" by the Stockholm Declaration of the United Nations Conference on the Human Environment, at Stockholm, Sweden, on June 16, 1972. U.N. Doc. A/CONF. 48/14 (1972), reprinted in 11 I.L.M. 1416 (1972). See also Lutz, *supra* note 12, for a comparative assessment of the surge of national legislative efforts of more than sixteen countries.

29. Despite continuing efforts during most of the Seventies to dismantle (amend, revise) the framework of environmental regulation, much of it remains intact. Although these efforts continue (see *Commission, supra* note 25), the strategy of many environmental groups is focused on refining the machinery to enhance and strengthen compliance and enforcement programs.

30. Many of these developments are chronicled by ENERGY USERS REPORT—CURRENT REPORT (BNA).

31. See R. KRUEGER, THE UNITED STATES AND INTERNATIONAL OIL, A REPORT FOR THE FEDERAL ENERGY ADMINISTRATION ON U.S. FIRMS AND GOVERNMENT POLICY, 37-81 (1975); and SAMPSON, THE SEVEN SISTERS 186-220 (1975).

32. See generally J.N. Moore, *Foreign Policy Dimensions of the Crisis in Oil*, 17 WILLAMETTE L. REV. 111, 113-15 (1980).

33. See *id.*, at 111-39; Stobaugh and Yergin, *Energy: An Emergency Telescoped*,

From these experiences,<sup>34</sup> we learned that there are no single, narrow paths to reliable energy supply and controllable energy demand. The range of energy choices is indeed broad. Because the national resource base is so diverse, there is room for improving our efficiency, and there are a potpourri of needs.<sup>35</sup> Real, workable choices to our current approaches do exist, but they do not automatically occur. There is a need for positive and enlightened action by lawmakers, administrators, industry leaders, and citizens. In short, "the role of energy is too pervasive and the interests too manifold for any expectation that there will be a simple consensus."<sup>36</sup>

Three other observations, focusing on the nature of the United States' policy and legal development, are relevant. First, the United States' institutional perception of a need for an energy policy was late coming. Consequently, United States policies in the economic, national security, research and development, and environmental areas had been formulated prior to the focus on development of an energy policy. Therefore, an accommodation was necessary, and the dynamics of that process have been extremely difficult to orchestrate,<sup>37</sup> to the dissatisfaction of both government and, probably, to the ultimate detriment of the consuming public.<sup>38</sup>

Second, the institutions of our country operate very much on a

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58 FOREIGN AFF. 563 (1980). See also R. KRUEGER, *supra* note 31, at 83-113; Dreyfus, Federal Energy Organization: A Staff Analysis, Prepared for Committee on Interior and Insular Affairs, Ser. No. 93-6 (29-41), 93d Cong., 1st Sess. (1973); S. Abbasi, Federal Energy Reorganization: Historical Perspective, in Committee on Interior and Insular Affairs, Federal Energy Reorganization: Historical Perspective, Ser. No. 94-46 (92-136), 94th Cong., 2d Sess. (1976) (Comm. Print). See generally W. RODGERS, ENERGY AND NATURAL RESOURCES LAW, CASES AND MATERIALS 1-23 (1979).

34. See ENERGY POLICY PROJECT OF THE FORD FOUNDATION, A TIME TO CHOOSE AMERICA'S ENERGY FUTURE 1-17 (1974).

35. *Id.* at 19-111; see also STOBAUGH and YERGIN (eds.), ENERGY FUTURE (1979).

36. Rose, *Energy Policy in the U.S.*, 230 SCIENTIFIC AM. (Jan. 1974).

37. *Id.*; see also Smernoff, Energy Policy Interactions in the United States, Energy Policy (Sept. 1973), reprinted in Senate Committee on Interior and Insular Affairs, Energy Policy Papers, Ser. No. 93-43 (92-78), 93d Cong., 2d Sess., 73-90, (Comm. Print 1974).

38. Some would contend that these difficulties are to be expected in a heterogeneous, democratic society. For a discussion of the many considerations necessary for the formulation of a national energy policy, see Senate Committee on Interior and Insular Affairs, Considerations in the Formulation of National Energy Policy, Ser. No. 92-4, 92d Cong. 1st Sess. (Comm. Print 1971).



crisis management basis.<sup>39</sup> When a problem arises, the appropriate legislature responds by passing laws regulating the offending party. Translating bad laws into a workable, enforceable regulatory system is not easy. In the rush to do something, bureaucracies, which were already under fire for overreaching and overzealous programs, received mandates to do more with less and to achieve dubious and hastily composed objectives. The painful process of reviewing institutional arrangements and tasks and reevaluating basic governmental power relationships is at hand,<sup>40</sup> perhaps partially, as a result of the lack of institutional response capability during the early energy crisis. The bifurcation of approaches for dealing with energy development and environmental quality suggests incorrectly that one is not compatible with the other and emphasizes the need for a comprehensive reassessment and approach.

Third, the ordeal of change or future shock<sup>41</sup> of the energy crisis has had its social and psychological costs and benefits. A public skepticism of government was engendered by the crisis. Citizens seriously questioned the quality of leadership, the effectiveness of the executive and legislative branches to respond to major crises, and the ability of our nation to be secure from foreign manipulation. Serious economic and social dislocations have taken their toll on various segments of society, necessitating a reorientation by families to deal with the twin scourges of inflation and unemployment. Some secondary effects, however, have been quite beneficial for our society as a whole. Catapulting us from the post-World War II era of thoughtless energy and material consumption, the energy crisis made it necessary to become conservation conscious. The fact of international economic interdependence of the United States was dramatically impressed upon our citizens, who had long considered our economic stability and strength an ingrown, self-contained phenomenon. The prosperity of the United States no longer depends merely upon its

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39. See Lindbloom, *The Science of "Muddling Through"*, 19 PUB. AD. 79 (Spring 1979). For perspectives on the planning *versus* "fighting fires" debate, see generally ELLICKSON and TARLOCK, *LAND-USE CONTROLS, CASES AND MATERIALS* 361-75 (1981).

40. Certainly no stranger to our system, various governmental reform efforts are afoot. Some focus on agency authority, responsiveness, and procedures (e.g., AMERICAN BAR ASSOCIATION, *FEDERAL REGULATION: ROADS TO REFORM* (1979)); others address the basic distribution of governmental authority (for example, the so-called Sagebrush Rebellion). See also LUTZ, *Getting into Deep Water: Emerging Environmental Regimes and Jurisdictional Conflicts of the Coastal Belt*, in CENTER FOR OCEAN MANAGEMENT STUDIES ANNUAL CONFERENCE PROCEEDINGS (1977).

41. See E. HOFFER, *THE ORDEAL OF CHANGE* (1963) and A. TOFFLER, *FUTURE SHOCK* (1970), both dealing with the personal and societal difficulties of change.

productive capacity; it is inextricably connected with that of other nations.

## II. LNG—A CASE STUDY *PAR EXCELLENCE*

With this limited perspective of the environmental decade and energy crisis of the Seventies, the focus today is appropriately on the future, the new decade of the Eighties. Our task is to investigate the subject of liquefied natural gas in Southern California. It is a topic which introduces an interesting and exciting story, one which has all the ingredients of a modern day human drama: international intrigue, adventure on the high seas, and even a touch of the Old West. Consider some of the recent headlines of articles in local newspapers: "LNG Battle, Lull in the Storm over Point Conception";<sup>42</sup> "LNG Not Welcome, But Needed";<sup>43</sup> "Indians Take LNG Fight to Court."<sup>44</sup> Over the course of this project, there were undoubtedly many other headlines, and they might have read: LNG, Gasly State of Affairs; and LNG, the Burning Issue of our State.<sup>45</sup> These do not compare with the rhetoric of President Carter in declaring the United States' energy effort, "the moral equivalent of war," but they do emphasize the highly politicized and emotional character of the LNG controversy.

When one considers LNG's cradle to consumer chain, the intricate technological, legal, and public policy concerns of this multi-stage process become evident. The process of LNG production to delivery involved in this proposal for Southern California includes: exploitation, liquefaction, and storage in Indonesia or at a foreign location; LNG transport to California by ship; unloading at a California coastal site; revaporizing and storage here; and distribution to other centers by pipeline or other forms of transportation.<sup>46</sup>

42. L.A. Times, Oct. 14, 1979, § 2, at 1.

43. *Id.* Oct. 17, 1979, § 2, at 4.

44. *Id.* Sept. 28, 1979.

45. The author expressly assumes *no* responsibility for the humor, or lack thereof, of any puns.

46. See Balzar, *Liquefied Natural Gas Safety, The State's Latest Energy Conflict*, 8 CAL. J. 220 (1977); OFFICE OF TECHNOLOGY ASSESSMENT, *ALTERNATIVE ENERGY FUTURES, PART 1: THE FUTURE OF LIQUEFIED NATURAL GAS IMPORTS—SUMMARY 17, 19* (1980); and COMPTROLLER GENERAL OF THE UNITED STATES, *REPORT ON THE NATURAL GAS SHORTAGE: THE ROLE OF IMPORTED LIQUEFIED NATURAL GAS* (1975); see also Comment, *Liquefied Natural Gas Terminal Siting in the California Coastal Zone: The Scope of Permissible State Authority*, 9 PAC. L.J. 1069, 1075-77 (1978).

## A. Technological Issues<sup>47</sup>

At each of these stages, important issues are presented which reflect on the responsiveness of technology in protecting the public safety.<sup>48</sup> Some examples are: the safety of ships in transit,<sup>49</sup> the safety of unloading and revaporizing LNG,<sup>50</sup> the safe storage and distribution of LNG,<sup>51</sup> and the degree to which earthquake protection can be provided to make facilities sufficiently earth-

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47. The dearth of discussion under this topic heading compared to the others is not meant to suggest that technological issues are in any sense less important. To the contrary, many of these considerations are basic to the existence of the LNG project, and indeed are fundamentally applicable to our technological society. Their brief treatment merely reflects the general emphasis of the Symposium on legal and policy issues, and the author's lack of confidence in his ability to effectively translate the highly technical matters involved into laymen's terms.

48. Public safety concerns are the starting point for almost any discussion of LNG. There are "worst case" scenarios and even tragic experiences to cite. See generally Weinberg, *Cargo of Fire: A Call for Stricter Regulation of Liquefied Natural Gas Shipment and Storage*, 4 *FORDHAM URB. L.J.* 495 (1976). There are even more tempered discussions referring to risk assessments. See, e.g., Comment, *supra* note 46 and Greenwald, *LNG Carrier Safety: A Guide to the System of Federal Regulation*, 9 *J. MAR. L. & COMM.* 155 (1978)).

49. Public concern for maritime safety has been accompanied by increased recognition that ocean transportation is not simply a series of discrete events pertaining to a cargo, a vessel, or a voyage. Rather ocean transportation operates as a system, and safe operation requires measures designed to take effect during every stage. LNG transportation is a product of developments in the science of cryogenics which studies the behavior of materials at very low temperatures. Major breakthroughs were made in the search for metals capable of containing liquid oxygen and hydrogen to fuel rocket propulsion, and for vessels capable of transporting these rocket fuels. It is fitting that ocean transportation of LNG, born in the space age should be among the first maritime trades subjected to a searching and systematic safety analysis. . . . The LNG cargo itself is by no means as hazardous as many liquid bulk chemicals transported in maritime commerce. . . . The unique problems of transporting LNG center upon vessel structures and vessel cargo tanks which must be made of materials that can reliably contain so cold a liquid, and upon the transfer of the LNG between ship and shore without spills.

Greenwald, *id.* at 155-56, 160.

Shipping safety, in particular the structure of the ship, the LNG storage tanks, precautions to prevent leakage and spillage, and ship personnel qualifications are all regulated by federal and international law. See *id.*, at 165-82; and Weinberg, *supra* note 48, at 507-10.

50. See *L.A. Times*, Apr. 20, 1980, § 2, at 1; Weinberg, *supra* note 48, at 496-97. See also JAQUETTE, *POSSIBILITIES AND PROBABILITIES IN ASSESSMENT OF THE HAZARDS OF THE IMPORTATION OF LIQUEFIED NATURAL GAS* (April 1975) (Rand Corp. Public. P-5411); W. KING, *ON THE FLUID MECHANICS AND HEAT TRANSFER OF LIQUEFIED NATURAL GAS SPILLS* (June 1975) (Rand Corp. Public. P-5396); and F. MURRAY, *ATMOSPHERIC DISPERSION OF VAPORIZED LIQUEFIED NATURAL GAS* (Feb. 1975) (Rand Corp. Public P-5360).

51. See *L.A. Times*, Apr. 20, 1980, § 2, at 1; Southern California Gas Co., *The Role of Gas in Southern California* (May 1980); Balzar, *supra* note 46; and Comment, *supra* note 46. See also California Liquefied Natural Gas Terminal Act of 1977, CAL. PUB. UTIL. CODE §§ 5550, 5562, 5584, 5611 (West 1980).

quake-proof.<sup>52</sup> All the issues are difficult and call for the latest technology and comprehensive technological assessments. The concern for whether science is capable of assessing the technological risks involved, and how a decision maker or citizen ought to evaluate such data are, of course, overriding questions.

### B. Legal Considerations

As you might imagine, the LNG case study is a law professor's dream come true, providing a rich number of legal issues for consideration.<sup>53</sup> The scenario of LNG development to distribution raises difficult questions about the right of private property ownership versus the civil liberty to freely exercise religious beliefs<sup>54</sup> and versus aboriginal property claims.<sup>55</sup> Assertions by nearby property owners raise constitutional and state statutory questions about whether they have compensable property interests<sup>56</sup> and, further, whether they have standing to enjoin activity at the LNG site.<sup>57</sup> Even the authority of private companies to employ eminent domain powers is brought into question.<sup>58</sup>

No energy development is free from a myriad of legal questions

52. See L.A. Times, Nov. 17, 1979, § 2, at 1; *id.*, Apr. 20, 1980, § 2, at 1, col. 4.

53. For suggestions regarding curriculum for a law school energy law course, see Fischer, *Book Review* (Energy and Natural Resources Law by W. Rodgers), 68 GEORGETOWN L.J. 267 (1979).

54. "The Indians, and particularly the Chumash, believe that while all land is sacred, the Point Conception area is especially so since it symbolizes the so-called Western Gate through which spirits pass from this life. Locating an LNG terminal in the area would be desecrating the land, they believe." L.A. Times, Oct. 14, 1979, § 2. See also *id.*, Sept. 3, 1980, § 2, at 4, col. 2; and Mar. 11, 1976, § 6, at 5, col. 4. See generally GETCHES, ROSENFELT and WILKINSON, FEDERAL INDIAN LAW—CASES AND MATERIALS (1979) (hereinafter cited as GETCHES *et al.*).

55. See generally Cohen, *The Erosion of Indian Rights*, 62 YALE L.J. 348 (1953); Cohen, *Original Indian Title*, 32 MINN. L. REV. 28 (1947); and GETCHES *et al.*, *supra* note 54.

56. This issue has been posed primarily by the Bixby Ranch Co., a local property owner in the Point Conception area: "The remoteness and rural quality of the property would certainly be destroyed and maybe the property would be rendered valueless." L.A. Times, Oct. 14, 1979.

57. *Id.*

58. See Liquefied Natural Gas Act of 1977, CAL. PUB. UTIL. CODE § 5590 (West 1980):

The construction and operation of an LNG terminal related facilities, and access road and the creation and maintenance of an area of low population density surrounding the terminal are public uses and purposes for which the power of eminent domain may be exercised pursuant to Title 7 (commencing with Section 1230.010) of Part 3 of the [California] Code of Civil Procedure.

*Id.*

asking whether federal or state law is applicable,<sup>59</sup> and certainly, the proposed LNG project is no exception. Here, concerns about the preemptive effect of federal laws pervade almost every aspect of the project.<sup>60</sup> The scope of the tenth amendment<sup>61</sup> and the uncertainty of the state's role in regulating phases of LNG development<sup>62</sup> continue to keep all affected parties a little in doubt as to which law applies.

The field of administrative law is not left untouched by this controversy; in fact, it raises some of the most interesting contemporary legal issues, especially for those of us who like to explore the field of institutional reform. Administrative agency jurisdiction and procedures are general subjects of this focus. Serious matters such as the efficacy and appropriateness of protracted permit procedures pose important due process issues, which must be tested against the government's legitimate interests in protecting the public welfare.<sup>63</sup> In an era of legislative grants of broad dis-

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59. Energy development typically involves landuse decisions which, of course, traditionally are local zoning matters. However, as development of this nature has taken on national interest in recent years, federal laws sometimes direct the pace, type, and location of such activities. States that are concerned about their economic development and environmental quality also become involved. See generally NATURAL RESOURCES DEFENSE COUNCIL, INC., *LAND USE CONTROLS IN THE UNITED STATES* (1977).

60. The Supremacy Clause, U.S. CONST. art. VI(2), and the tenth amendment, U.S. Const. amend. X, the Commerce Clause, U.S. CONST. art. I, § 8, cl. 3, and the Property Clause, U.S. CONST. art. IV, § 3, cl. 2, are the Constitutional provisions usually involved in such debates. Some recent cases in this area include: *Kleppe v. New Mexico*, 426 U.S. 529 (1976); *District of Columbia v. Train*, 521 F.2d 971 (D.C. Cir. 1975); *Brown v. Environmental Protection Agency*, 521 F.2d 827 (9th Cir. 1975); *U.S. v. Ohio Dept. of Highway Safety*, 15 ERC 1273 (6th Cir. 1980); *Friends of the Earth v. Carey*, 552 F.2d 25 (D.C. Cir. 1977), cert. denied, 434 U.S. 902 (1977); *National League of Cities v. Usery*, 426 U.S. 833 (1976); *City of Philadelphia v. New Jersey*, 437 U.S. 617 (1978); *Ray v. Atlantic Richfield Co.*, 435 U.S. 151 (1978); *British Airways Bd. v. Port of New York*, 564 F.2d 1002 (2d Cir. 1977); and *Northern States Power Co. v. Minn.*, 447 F.2d 1143 (8th Cir. 1971), aff'd, 405 U.S. 1035 (1971).

For some useful perspectives on these issues, see Stewart, *Pryamids of Sacrifice? Problems of Federalism in Mandating State Implementation of National Environmental Policy*, 86 YALE L.J. 1196 (1977); Tribe, *California Declines the Nuclear Gamble: Is Such a State Choice Preempted?*, 7 ECOLOGY L. Q. 679 (1979); and Comment, *State Environmental Protection Legislation and the Commerce Clause*, 87 HARV. L. REV. 1762 (1974).

61. *Id.*

62. [W]hether the state is preempted in its attempt to eliminate preclusive federal determination of terminal sites turns initially upon whether there exists a conflict between the siting provisions of the LNG Terminal Act and some existing federal statute or statutes. The conflict . . . may manifest itself either in terms of an obvious contradiction in statutory language or, in a more subtle fashion, by the existence of a state statute repugnant to the objectives of Congress.

Comment, *supra* note 46, at 1086.

63. Much of the due process development of the 1960s and early Seventies focused on the protection of legitimate interests known as the "New Property." See C. Reich, *New Property*, 73 YALE L.J. 733 (1964). Today, as if the pendulum has

cretion to agencies,<sup>64</sup> the LNG case presents numerous instances in which the scope of agency discretion might be appropriately questioned. Silhouetted against these administrative law issues are the active efforts of state legislatures<sup>65</sup> and Congress<sup>66</sup> to dramatically revise administrative law in the United States.<sup>67</sup> This creates an atmosphere of uncertainty, while parties to the LNG project grapple with the existing process. Certainly, the reliance being placed on the judiciary to resolve competing policies also raises fundamental issues about our legal system to which no law school student is a stranger.<sup>68</sup>

The foreign aspects of LNG development do not necessarily escape the application of United States law. In fact, the extraterritorial reach of certain United States laws may be relevant.<sup>69</sup> If they are, they would have a significant impact on such a project and raise extremely interesting jurisdictional issues.<sup>70</sup> Moreover, international law applies to much of the international transportation of LNG. Despite the constantly changing nature of legal developments in this area, liability and transport safety are generally regulated by the IMCO Conventions.<sup>71</sup> The law of the sea<sup>72</sup>

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swung back, there is great concern about what is the appropriate amount of procedural due process for agency rulemaking and other types of activities affecting, in particular, economic interests. See generally RABIN, *Administrative Law in Transition: A Discipline in Search of an Organizing Principle*, PERSPECTIVES ON THE ADMINISTRATIVE PROCESS (Rabin ed.), 13-14 (1979).

64. See note 16 *supra* and accompanying text.

65. The Uniform Law Commissioners' Revised Model State Administrative Procedure Act of 1961 (13 UNIFORM LAWS ANN. 341-448 (Pamphlet 1979)), which has served as a model act for twenty-six states and influenced another twenty-three. See GELLHORN, BYSE & STRAUSS, *ADMINISTRATIVE LAW—CASES AND COMMENTS* 1148 (7th ed. 1979) (presently undergoing revision).

66. Proceedings of the National Conference on Federal Regulation; see generally *Roads to Reform*, 32 ADMIN. L. REV. 123-409 (Spring 1980).

67. See generally AMERICAN BAR ASS'N., *supra* note 40.

68. See generally TOMAIN, *ENERGY LAW IN A NUTSHELL* 72-103 (1981).

69. See, e.g., the National Environmental Policy Act, 42 U.S.C. §§ 4331 *et seq.* (1976), is by Executive Order, if not by force of the law itself, applicable to various activities occurring abroad. (See Exec. Order No. 12114, 44 Fed. Reg. 1977 (1979)). Similarly, the Foreign Corrupt Practices Act, antitrust and securities laws have been applied to foreign activities. See RESTATEMENT (SECOND) OF FOREIGN RELATIONS LAW OF THE UNITED STATES (Revised) (Tent. Draft No. 2, 87-170, 1981); see also RESTATEMENT (SECOND) OF FOREIGN RELATIONS LAW OF THE UNITED STATES § 10 (1965).

70. *Id.*

71. The Intergovernmental Maritime Consultative Organization (IMCO) has sponsored three multilateral conventions relating to various aspects of maritime pollution: (1) 1954 International Convention for the Prevention of the Pollution of the Sea by Oil, entered into force July 1958, 3 U.S.T. 2989, T.I.A.S. No. 4900, 327

delineates the rights and duties applicable to, primarily, nations engaged in ocean activities,<sup>73</sup> but events surrounding its revision cast doubt as to the permanency of any of the Draft Convention's provisions<sup>74</sup> and the state of customary international law principles in this area.<sup>75</sup>

Last, financial responsibility for such energy projects is determined by the financing method being employed to underwrite the LNG terminal.<sup>76</sup> This matter is of utmost significance because public utility energy projects are becoming more expensive and increasingly require tremendous front end capital expenditures.<sup>77</sup>

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U.N.T.S. 3; 1962 Amendments to the 1954 Convention for the Prevention of Pollution of the Sea by Oil, entered into force May 18, 1967, 2 U.S.T. 1523, T.I.A.S. No. 6109, 600 U.N.T.S. 332; 1969 Amendments to the 1954 Convention for the Prevention of the Pollution of the Sea by Oil, annexed to IMCO Assembly Res. A. 175(vi), Oct. 21, 1969; (2) International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties, at Brussels, Nov. 29, 1969, *reprinted in* 9 I.L.M. 25 (1970); and (3) International Convention on Civil Liability for Oil Pollution Damage, at Brussels, Nov. 29, 1969, *reprinted in* 9 I.L.M. 45 (1970).

72. This is a generic term referring largely to the treaty-made and customary international law governing the rights and duties of states in the oceans. Prominent amongst the convention-made law are the results of the United Nations First Conference on the Law of the Sea, which were the 1958 Geneva Conventions: (1) on the High Seas, 13 U.S.T. 2312, T.I.A.S. No. 5200, 450 U.N.T.S. 82 (entered into force for the U.S., Sept. 30, 1962); (2) on the Continental Shelf, 15 U.S.T. 471, T.I.A.S. No. 5578, 499 U.N.T.S. 311 (entered into force for the U.S., June 10, 1964); (3) on the Territorial Sea and Contiguous Zone, 15 U.S.T. 1606, T.I.A.S. No. 5639, 516 U.N.T.S. 205 (entered into force for the U.S., Sept. 10, 1964); and (4) on Fishing and Conservation of Living Resources of the High Seas, 17 U.S.T. 138, T.I.A.S. No. 5969, 559 U.N.T.S. 285 (entered into force for the U.S., March 20, 1966).

Since 1973, the United Nations has convened the Third United Nations Conference on the Law of the Sea (UNCLOS III). The Conference is presently considering the Draft Convention of the Law of the Sea, A/Conf. 62/WP.10/Rev. 3 (27 August 1980), the culmination of at least four earlier draft documents. See Oxman, *The Third United Nations Conference on the Law of the Sea: The Ninth Session* (1980), 75 A.J.I.L. 211 (1981).

73. See Draft Convention, *id.*

74. Just when the treaty process was entering its final phase, the Reagan Administration indicated it would conduct a reassessment of the U.S. positions taken in the negotiations over the last eight years. This was done despite the support of three prior Administrations for the U.S. Delegation's negotiations and compromises.

75. See generally Lutz, *National Hegemony and International Suzerainty in the Oceans: The Environmental Implications of the Law of the Seas Negotiations*, 6 INT'L BUS. LAW. 174 (1978).

76. See Balzar, *supra* note 46, at 222-23; see generally Fischer, *The New Synthetic Fuels Program: Boomlet or Bust*, 16 TULSA L.J. 357, 378-406 (1981); and Lutz, *Expenditure Incentives*, REPORT TO THE NATIONAL SCIENCE FOUNDATION ON EVALUATION ON INCENTIVES FOR THE DEVELOPMENT OF OCEAN THERMAL ENERGY CONVERSION TECHNOLOGY (Washom, Nilles, Lutz, *et al.*, Contrib.) (1976).

77. Financing is needed to pay for construction of a liquefaction plant at Gravina Point on the south coast of Alaska, the receiving terminal and regasification plant at Point Conception and the special tankers needed to transport the gas—8,150 nautical miles from Indonesia and 2,050 miles from Alaska. The Indonesia liquefaction terminal will be built in Sumatra

### C. Policy Considerations

The policy issues involved, such as the role of law in society, are equally tantalizing to the student and, like other issue areas, these questions may overlap the technological and legal categories.<sup>78</sup> Although many possibilities come to mind, only a few basic ones will be ventured here.

Since a percentage of the LNG coming to Point Conception would be produced in Indonesia, a major question, perplexing to nearly a decade of energy planners, is what should be our dependence on foreign energy sources?<sup>79</sup> With much of foreign energy supply in our country managed by private companies, the related concern of whether government ought to play a greater role in arranging or making foreign supply agreements is also relevant.<sup>80</sup>

by Pertamina, the Governmentowned petroleum firm that will sell the gas to the California companies.

L.A. Times, Sept. 28, 1979, § I, at 1.

The entire project is predicted to cost 3 billion dollars. *Id.*, Jan. 12, 1980, § I, at 1, col. 1.

Other considerations are involved. Should the ultimate consumer today pay for energy development which will benefit customers tomorrow, or in other words, should there be prepayment? Also, what happens with respect to cost overruns, costs incurred because of regulatory or legislative delays, or even the ultimate rejection of the project by government or by developers (based on economic infeasibility)? Can these expenses be internalized in current or future rate structures? See generally TOMAIN, *ENERGY LAW IN A NUTSHELL* 104-35 (1981).

78. Technological considerations in particular, while often demanding a technical and scientific understanding for effective deliberation, in the end involve basic matters of public policy.

79. A half decade after 'Project Independence' the United States imports about forty-five percent of its oil rather than the earlier thirty to forty percent dependency. . . . OPEC control over most of the surplus oil available for export prevents a free oil market and has resulted in repeated oil shocks as prices quadrupled in 1973-1974 and more than doubled again in 1979. Tight supplies, threats of political embargo, recent OPEC policies reducing production to keep supplies tight, and the relative inelasticity of short-term demand for oil created near panic in oil markets. These factors also made prices highly sensitive to minor shortfalls in supply or even to expectations of such shortfalls.

Moore, *Foreign Policy Dimensions of the Crisis in Oil*, 17 WILLAMETTE L. REV. 111, 113 (1980).

80. Certainly there are factors in any private company-foreign country energy arrangement which should concern the federal government. For example, the stability of a foreign country's government ought to be a major criterion in any assessment of whether dependence is appropriate. Other political factors might also include the ideological differences between supplier and supplied, since such grounds may be used to terminate or alter the terms of concession agreements. See generally WESTON, FALK & D'AMATO, *INTERNATIONAL LAW AND WORLD ORDER* 713-37 (1980).

Although before OPEC, this concern held limited significance, today it is regu-



In these hard energy times, should not supply be related to *real* need?<sup>81</sup> If so, what role should conservation play, and who should determine it?

On a domestic scale, California, with an increased natural gas supply, would become a "have" state. In this new epoch of energy planning, what will be California's responsibility to "have not" states?<sup>82</sup> A related planning concern, but more a matter of state policy, is the appropriate location of LNG terminals. Specifically, should low density areas be considered desirable over those which have well developed harbors with industrial infrastructures?<sup>83</sup> Are there comparative advantages of onshore sites to offshore ones? Also, the relative responsibilities between government and the energy industry in energy site selection changes from state to state.<sup>84</sup> Some states direct government to make the choice or at least narrow the possibilities; other states give industry a free hand, limited by regulations and various site criteria primarily designed to achieve safety objectives.<sup>85</sup> Is there a proper balance amongst these approaches? Should private industry make initial site selections and be responsible for building and supplying gas, particularly when the sources are international; or should there be federal or state procedures set aside for siting?

It would certainly be difficult to identify any environmental or energy achievement of the past decade which does not have the stamp of citizen involvement to its credit. But, as issues become

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larly a matter of multilateral discussion, for example, the U.S. concern with West Germany's plans to obtain natural gas from the Soviet Union expressed at the Ottawa Economic Conference of early August 1981. See generally "Summit of a Strong Seven," TIME, Aug. 3, 1981.

Obviously, no western industrialized nation is immune from reliance on foreign energy and mineral resources, but some arrangements seriously place national economic stability in jeopardy. For example, the general U.S. vulnerability, as a result of OPEC policies, to fluctuations of the supply and price of oil is well known. Aside from these concerns, U.S. dependence on Libyan oil has made normal diplomatic responses to the outrageous international antics of Colonel Khadafi quite difficult on a number of occasions.

81. See L.A. Times, Jan. 21, 1981, § I, at 1, col. 1.

82. See generally "The Angry West vs. The Rest," NEWSWEEK, Sept. 17, 1979, at 31-40. This issue is becoming central to numerous resource development programs. See, e.g., Testimony and Prepared Statement by Robert E. Lutz, in Hearings on H.R. 6218 (Outer Continental Shelf Lands Act Amendments of 1975), before the House Ad Hoc Select Comm. on Outer Continental Shelf, 94th Cong., 1st Sess., pt. 2, at 1240-47 (1976). On an international level, the issue is also evident; it is euphemistically referred to as the "North-South Debate" and best typified by the developments surrounding the "New International Economic Order." See note 27 *supra*.

83. See Comment, *supra* note 46, at 1073-75, 1079-83.

84. See, e.g., JOHNSON & HILDRETH, COASTAL ZONE LAW AND POLICY 601-702 (1980).

85. *Id.*

more complex and the expenses associated with delay increase, we should strive to provide the proper role and mode for citizen participation.<sup>86</sup> The associated question of how much process is due under state and federal constitutions establishes the parameters of the search for the combination. Whether current approaches of multiple agencies and processes improve the prospects of good decision-making, or whether it is detrimental to the adversaries as well as the general public, are issues, not only of the moment, but also of the future. A close look at institutional reform efforts directed at limiting traditional citizen access to the process is merited. In particular, what are the prospects that institutional override or fast-track<sup>87</sup> devices will help achieve good decisions and provide due process?

*D. The Fourth and Fifth Dimensions: Jurisdictions and Constituencies*

If one spreads over these concerns the particular jurisdictional aspects relating to international, national, state, and local levels of government, there will be a complicated set of factors to consider. Add to that the myriad of constituencies, such as: industry, chambers of commerce, landowners, city governments, Indians, environmental organizations, state governments, and the federal government, all attempting to influence decision makers and policymakers. Each LNG concern thus becomes a multi-dimensional, multi-faceted issue.

### III. ENGAGING THE FUTURE

The Symposium that follows explores many of these aspects. From an analysis of the LNG experience in California, lessons are being learned and recorded that will assist the assessment of other siting and energy development activities.

Recognizing the complexity of these concerns, one might conclude that solving energy problems in a way that is sensitive to environmental concerns is an impossible task. While one must appreciate the extreme complexity and difficulty of the energy

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86. See Bazelon II, *supra* note 17, at 214-15; see generally STEWART & KRIER, *supra* note 15, at 811-37.

87. See, e.g., Fischer, *Allocating Decisionmaking in the Field of Energy Resource Development: Some Questions and Suggestions*, 22 ARIZ. L. REV. 1001 (1980).

supply process, do not despair! This is the time that choices affecting our future can still thoughtfully be made. It is the responsibility of all citizens to find ways to provide a better future; and lawyers, uniquely trained for such tasks, must not fail to ably apply their analytical skills in this endeavor. The solutions must not be provincial ones, improving only the lot of a special locale or parochial interest. Our community is a larger unit involving an integration of city, state, nation, globe, and universe. In an environmental, economic, and energy sense, our destinies are indeed linked to those of fellow citizens, other peoples, and other nations.

We should not be guilty of the sin of our elders who tended to disparage a consideration of the future in their planning for the present. We must look to long-term as well as short-term solutions. We must be aware that despite our individual advances, we, as a country and people, are integral to a global and even universal system. The recently issued *Global 2000 Report*<sup>88</sup> makes a poignant point which is worth repeating and hopefully will provide an additional perspective for these efforts:

The world in 2000 will be different from the world today in important ways. There will be more people. There will be fewer resources to go around . . . . The environment will have lost important life-supporting capabilities . . . . Prices will be higher . . . in real terms, not merely in inflationary terms . . . . The world will be more vulnerable both to natural disaster and to disruptions from human causes . . . . Finally, it must be emphasized that if public policy continues generally unchanged, the world will be different as a result of lost opportunities.<sup>89</sup>

And remember, the proposed Southern California LNG project is only a twenty-year partial solution.<sup>90</sup>

Thank you.

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88. COUNCIL ON ENVIRONMENTAL QUALITY AND THE DEPARTMENT OF STATE, *THE GLOBAL 2000 REPORT TO THE PRESIDENT—ENTERING THE TWENTY-FIRST CENTURY*, Vol. 1 (1980) [hereinafter cited as *GLOBAL 2000 REPORT*]. See also COUNCIL ON ENVIRONMENTAL QUALITY AND DEPARTMENT OF STATE, *GLOBAL FUTURE: TIME TO ACT, REPORT TO THE PRESIDENT ON GLOBAL RESOURCES, ENVIRONMENT AND POPULATION* (Jan. 1981), providing an action plan for responding to the *GLOBAL 2000 REPORT*.

89. See *GLOBAL 2000 REPORT*, *id.*, at 39-40.

90. Southern California Gas Co., *The Role of Gas in Southern California*, 18 (Booklet, May 1980).

*Nelson:* Thank you Professor Lutz for those comments, particularly for the questions you have posed with which we will be dealing very shortly.

*Moderator:* We want to use this particular panel time to discuss the process of developing and utilizing an energy source; the ramifications of why we choose energy sources; what the particular problems are that they pose for us as a source; the decision-making with regard to such things as safety factors, cost benefits, and cost effectiveness; and other similar things. A little bit later in the panel we will also discuss the process of utilizing those energy sources as it applies, for instance, to the state level and then to the federal level, and to what extent the federal level takes precedence over the state level under the Supremacy Clause of the Commerce Clause. Finally, we'll discuss something about the positions which various parties who are interested in the project take, and to what extent those positions can remain flexible or will harden because of financial or environmental considerations.

Professor Lutz has certainly raised a broad range of issues that we have to deal with, and my comment after his presentation is that he has left us only with a sense of hopelessness that no one could ever address all those issues or make any kind of coherent decision that takes them all into consideration. But that doesn't mean that we shouldn't raise them. The parties who are present today have a great deal of experience and interest, particularly in the area of liquefied natural gas as an energy source. Consequently, our discussion will naturally focus around that area. However, the discussion should not necessarily be limited to that, unless the participants feel they are unable or unwilling to venture outside that area. I would also say, of course, that a lot of the discussion which has gone on around liquefied natural gas in California centers around WLNG's plan to build a terminal and the subsequent decisions which have been made to place that terminal at Little Cojo Bay, near Point Conception. It's not our purpose as a panel to retry the Point Conception case. That's been extensively discussed at the regulatory and judicial levels. We don't have the capability of retrying it, nor is it in our best interests to do so. The extent to which the panelists wish to draw upon it as an experience can be very valuable, but it won't be our purpose to redecide whether or not any particular decision or the decisions as a whole were right, wrong, or indifferent.

We have a fairly diverse group of people representing a number of different interests and perspectives on the problems relating to energy development and the process involved. Let me begin this panel discussion by directing a question to Mr. McKinney. I'd like to ask why we are pointing toward LNG as an energy source; where does it fit into our choices regarding energy sources with alternatives such as coal, oil, nuclear, and solar energy? I'd ask him also to comment, to the extent he wishes to do so, upon the positions of WLNG, with regard to the benefits and problems involved in using LNG as an energy source. Mr. McKinney.

*McKinney:* I will now proceed to take the remaining time to respond to that question.

*Moderator:* That relieves me of a burden for sure.

*McKinney:* I think there are a couple reasons why LNG fits into the energy picture of California and the United States. First, California in particular is highly dependent on natural gas. It provides fifty-percent of the energy not used for transportation in the State. The bulk of the remaining fifty percent, of course, is made up of oil, principally imported oil.

The distribution system used to deliver the natural gas is a tremendous system. In California, there are approximately 70,000 miles of underground pipeline in place as a fixed delivery system, an extremely valuable asset. Since 1968, the production of domestic reserves has exceeded the new discoveries of domestic gas supplies; so, consequently, our domestic gas base has been dwindling rather rapidly. Conservation has helped offset the rate of that decline a bit, but every year we consume more gas than we produce.

I think that in the long-term, within the next twenty to fifty years, we are looking at the prospect of coal being a major source of synthetic gas which will employ the same delivery system. In the interim, we have the question of how to hold the system together. Liquefied natural gas appears to be one of the ways in which it can be done. Coal gasification is extremely expensive, the technology is still emerging, and the national will to mine that much coal isn't yet present, but it will come, I think, with time. In the meantime, there are astounding amounts of gas abroad that can be made available to the United States in the form of LNG. We're particularly fortunate to be in the Pacific Basin where gas supplies exist around the Basin.

A second reason why LNG fits into the energy picture of California and the United States is that in the state of Alaska there are prospects for great amounts of gas supplies, some of which

will be transportable by pipeline, just as the North Slope gas will hopefully be someday. Other supplies exist in areas where it is physically impossible to construct pipelines to move the gas out. It appears that LNG technology is the only solution for making that gas available to the consuming lower forty-eight states.

As to the problems, earlier we heard about the decade of the Seventies, the environmental changes, the changing course of laws during that period of time, and, I would say, the changing course of political and regulatory practice. That decade was also the decade of selecting sites and getting permits to site an LNG facility in California. Our greatest difficulty in dealing with the situation has changed along the way from being a technical problem to a political one. That decade saw changes in law. The National Environmental Policy Act, just coming into being at the beginning of the decade, was interpreted diversely during the decade. The regulatory agencies changed their practices in dealing with it during the decade, always to the extent of being more rigorous. The Coastal Zone Act, which came into being during that decade, took our planning for three sites, which we held, into a new political environmental process. Furthermore, administration and agency people have changed. We've gone through changes not only of laws, but of attitudes with the personnel. So these changes must be considered in trying to bring a project into being which is as complex and has as many issues as a major energy facility, and I wouldn't restrict this to LNG. I think the only unique thing about us in following the process to its conclusion, which we will do, is that we have a public utility trust, an obligation, to PG&E in the north and to Pacific Lighting for Southern California Gas Company in the south. Incidentally, Pacific Lighting is not the parent of PG&E. They're an unaffiliated corporation entering into a partnership for LNG purposes only.

There was Dow Chemical, although not an energy processor which was certainly a controversial type of operation. Then there was Sohio, which was an energy transmission system. Both of these were the kinds of ventures that owed no particular loyalty to the state of California. When they began to wade into the morass of obtaining a permit, they simply pulled up and went elsewhere. We do not have that luxury, or I assure you we would have done that a long time ago. There are other places in the United States where one could build a terminal rather quickly, despite the same laws being in place.

We're not unique, but we have been through a long and rigorous ordeal. Even the parties appearing on the other side of the table from us have changed. Our first choice was for our domestic project, South Alaska Gas, to come to Los Angeles Harbor on the seaward side of Terminal Alaska Gas. Our second terminal location selected was Ormond Beach in the city of Oxnard. Our third choice was the one that is now our only choice, Little Cojo Bay near Point Conception, which we, as a result of all our site selection efforts, arrived at as a third choice for a major project. At the same time, but quite independently, El Paso Natural Gas Company, had done precisely the same thing, and we inherited their interest in the facility at that location.

Each of the locations had opponents of a provincial base. The people who are well represented on the panel today, the Bixby Ranch and the Hollister Ranch owners, and the Santa Barbara Indian Center, would not be across the table from us today if it had not been for the legislative edict in California that there would be a land use conflict requiring the first terminal to be remote. The definition of "remote" was such that neither the Terminal Island site nor the Oxnard site qualified under the State Act.

I don't want to take up too much time on this, but another complication is that we are faced with two processes at the same time, a state process and a federal process. I think people have largely forgotten that we have a valid certificate from the Department of Energy to build an LNG terminal at the Oxnard site. However, the Department of Energy decision makers, as they saw the legislation develop in California, chose not to go the federal supremacy route, but rather tried to accommodate the California interest. They also allowed us to make application for the Little Cojo site. And as you know, they rendered a favorable decision on that site as well. The latter decision is not final yet; the one as to the Oxnard site is. So we have a multifaceted situation. I think I heard six dimensions this morning, and that's about right.

I think you particularly had in mind the issue of safety. Safety has been addressed at great lengths in two different ways. One is through the regulatory forum, via the technical, scientific, and evidentiary way. That method led to a finding by the Department of Energy that public safety would be adequately protected with an LNG facility in the Oxnard area. Secondly, the State Legislature viewed safety in a political light, not in a technical light, and simply chose to make the question moot by requiring a remote location. It didn't make it as moot as perhaps the Legislature thought it would, but it did remove the terminal and the concentration of energy from population concentrations.

In the regulatory field, the question of safety was addressed in California under the statute requiring the PUC to address it. Such consideration included what the design should be at the site and what we should be required to comply with. The approach taken was unlike natural gas pipelines, where location is a factor and population density is taken into account in design, so that in remote areas, the design requirements are less rigorous. Higher pressures are allowed there than in a populated area for the same design. That is not the case with the LNG terminal. The requirements on the terminal design are the same as though we were building it on a parcel of the same size in the city of Los Angeles. That's another measure of safety and the way it's been addressed.

*Moderator:* Are there other comments that anyone would like to make, particularly with regard to those remarks before we ask another question? Mr. Liss?

*Liss:* Keith McKinney has listed all of the factors that he believes have accounted for the fact that the particular LNG application at issue has been pending for so long; but, you know, I really think that one he mentioned is absolutely the key here. It raises questions about the legislature's role, state and federal, but especially in this case the State's role in regulating an energy facility siting while the process is going on. I don't think there's any doubt but that the key development in the delay, such as there has been delay in this project, was the passage in 1977 of the California LNG Terminal Siting Act, which mandated remote siting. As Keith correctly points out, just before that Act was passed, the federal government, at the administrative law level, had approved the Oxnard site, a site that the federal government and just about everyone involved, including the state of California in the federal proceedings, said was the superior site. As Keith said, Point Conception was the third choice of the three. So we had everyone agreeing that Oxnard was the best site for this terminal. Then the State passes an Act which under state law would exclude Oxnard as a possible selection. I don't know how the utilities felt about this Act, although Keith has said in the federal proceeding that they acquiesced or supported the California Act in exchange for other considerations, specifically the fast-track aspect of it all. All things considered, I don't know whether the utility companies would rather have had it or not.

In any case, that changed the whole ball game, because then



the best site from the state's standpoint was taken away. Incidentally, as Keith mentioned, at the administrative level, that is the final agency level, Oxnard was then approved by the federal government three months after the passage of the State Act. But now, instead of building in Oxnard which may have been the likely result if there had been no LNG Terminal Act or if it had been resisted, despite passage, by the sponsoring company, you have a whole new proceeding where all the questions have not been sorted out yet.

One likely claim that could be made at the federal level, and it was certainly made by my client and others at the administrative level, is that the federal government ought to override the state's statute as a matter of preemption and select the best site, which is Oxnard. That question hasn't been sorted out yet, and God only knows when it will be.

I don't know whether the California Legislature could have anticipated this, but I think the key factor in the development of this project was the passage in 1977 of that Act with the deliberate intent to affect the site selection and final decision in that case. There was no real pretense to that being an act of general application. It was directed at that case. It tried to mandate a result, and it's unclear now whether in so doing it may have doomed the project. Whether the state will ultimately get the result it was after, or whether the state will even continue to support that result, remains to be seen. It's already been more than three years, and by the time it's decided, it may be many more years still. I think it has raised very serious questions about whether a legislature can ever anticipate what's going to happen when it starts to tinker with individual cases.

I've been expecting an elbow from Lionel here and haven't gotten it yet, but I'd be curious to hear what he's got to say about that.

*Wilson:* I rather disagree with you. I think that the Act itself has not been the—well, it has been the key factor in delay. I think it's been a detour. My own personal view is that the reason the project hasn't gotten off the ground is that there is no positive energy policy, in California or at a national level, which adequately addresses the relative roles of LNG and gas in relation to synthetic fuels, coal, conservation, and whatnot. I think that if there had been a policy in place and some kind of strong guidelines at the time the California Act was passed by the State Legislature, the federal government would have overridden California if they felt it was in the best interest of the nation to go forward with an Oxnard site.

I think that's true here in California. I believe that if California had some type of energy policy that clearly spelled out the relative roles in the future, we probably would have seen a decision on LNG by today. As a supplement to that, the decision on July 31, 1978, which conditionally permitted the Point Conception site, was an attempt to say "we don't like the idea of coal in California. We think gas can play the major role in California." Gas would be what we look to as a transition twenty years down the road.

Finally, let me say that, certainly from the point of view of Keith McKinney, the experience of getting the project off the ground has been a frustrating one. Certainly, from the viewpoint of the public and the California Public Utilities Commission, three years have elapsed since WLNG first filed its application, and it looks like we're bungling along, and to some extent we have. However, the truth of the matter is, from my point of view, the California consumer has benefited from the delay, although not necessarily from the cost. Everybody can talk about the cost, but nevertheless we are now able to focus upon the lapse of three years and predict a little more clearly what's going to happen in the future. For example, what is the proper role of LNG, and what is the need for LNG?

*Moderator:* I gather you don't have a sense that anyone is making an overall decision as to where these pieces fit together. Rather, your time is being occupied in what are essentially technological aspects of the problem without having a sense of where this all goes.

For instance, Mr. McKinney mentioned that he sees gasification of coal, and synthetic fuel, as long-range major energy sources and sees LNG as necessary in the interim period. Now, where are those decisions being made? Are they being made simply by private industry? To the extent those choices are being made at one place or another, how adequate are the considerations such as cost effectiveness, safety, and cleanliness being coordinated as we move toward the production of LNG? Anyone want to tackle that one?

*Knierim:* I think you've hit on one of the interesting and perhaps unique aspects of things like LNG terminals. This is because, like any other kind of environmental issue which involves a large scale land use that is worth a lot of money to some, the decisions are not made. I can say this, not as an energy expert,

but as a land use lawyer normally dealing with residential and light industrial developments. I became involved in this problem from the perspective of someone challenging a political land use decision, rather than from the perspective of someone dealing with energy. Whether you're talking about going to a city council and deciding if 100 acres of what used to be open grassland on the edge of town are going to become a residential division, or whether a particular open space of grassland on the edge of California is going to become an LNG terminal, they are essentially the same questions.

The fundamental decision is a political one, and it's reached by compromise. There's some very interesting background to the LNG Terminal Act which helps put this in perspective. The federal government *did* approve Oxnard. It's very clear to all of us on the panel that the federal government has the authority to preempt local government or state government if an improved energy facility is found necessary for the national interest.

Despite that, the gas companies involved were going forward through the local government administrative process in Oxnard and through the myriad of convoluted requirements from various state agencies. They were trying to get all the permits they would need, as would any ordinary person who was trying to build anything that required land use approvals, without overriding federal approval. And they were running into great difficulties. They were having trouble with Oxnard, the Department of Fish and Game, the Coastal Commission, and probably the twenty or thirty agencies that were involved.

The gas companies went to the legislature and said: "Why don't you preempt all of the state and local government approvals, expedite the process, and put it in one place?" That was done. However, in exchange for that, there was a substantial body of sentiment in the Legislature that felt the terminal was terribly dangerous, and that, as a matter of general overriding policy, it had to be remotely sited. This was not a unilateral dictate by the Legislature. It was something to which Mr. McKinney's companies agreed in exchange for the expedited permit process. As an interesting aside, I know that because I have met the gentleman who drafted the LNG Terminal Act. He works for Mr. McKinney in the legal department.

Aside from that, the gas company was in a position where they had to say: "Look, remote siting is wonderful perhaps. There is only one place we can go with it. We're years down the pike; we've put a lot of money into Los Angeles; we've put a lot of money into Oxnard; and we've kind of looked at Point Concep-

tion. The Act is drafted in such a way that it really mandates the selection of one particular site." Two of Mr. Wilson's commissioners concurring in the July 31, 1978 approval of Point Conception said: "It's really too bad. It isn't a great site, but the Act is a stacked deck. The gas company didn't have any place else to go, and all we can do is approve Point Conception."

The Act has had some very interesting implications on the process because we've basically gone through the process, to a large extent, knowing what the outcome was going to be. You can speculate for yourselves on what that does to the role of lawyers and others involved in what, on paper, is intended to be a totally impartial adjudicatory proceeding. I don't mean to condemn this as a particular and unusual example of that. It is again, a consequence of the fact that you're dealing with a 500 million dollar project. Those are very, very important bucks in anybody's language. You could be dealing with a ten million dollar project on a local government level. That's important enough that everyone gets involved, everyone cares, and everyone wants to make the decisions in whatever way they can. This includes the political people, legislators, councilmen, governor, and whoever else is exposed. They not only have an interest in its legitimacy, but also are probably in a position where they don't have any choice *but* to have an interest in it.

*McKinney:* I wonder if I might just say one little thing because I don't want to take credit for our people drafting the Terminal Siting Act of 1977. The process developed in the Legislature, and in the Assembly, where, for whatever reason, an assemblyman heading up a vital subcommittee introduced legislation which would have required that the first terminal in California not be located on the mainland at all. In our judgment, and the judgment of other experts, that would have been beyond our technical capability to comply with. So, in effect, it would have precluded our bringing in these gas supplies.

In response to that, we, organized labor, business leaders, and other leaders in the Legislature, discussed the problem and a Labor Bill, definitely not the Bill that was enacted, was introduced in the Senate. It was SB 1081.

That Bill was passed in the Senate and it did not mandate a remote site. The result came about in the compromise which took place in the Assembly. The offshore site was compromised to a

remote onshore site, and so it came out of that political process. Believe me, I fought very hard to preserve the Oxnard site. When it became apparent that it was politically impossible, I said the practical effect, in my judgment, was that, if there was going to be a site, it would have to be the Little Cojo site. As long as they were going to mandate it, they might as well go ahead and mandate it and end the whole problem. They wouldn't do that either.

It was not a process we controlled by any stretch of the imagination. But, it did salvage at least the ability to get a permit in California, which the Legislature might have, without some opposition to what was going on, prohibited for political reasons, rather than technical reasons.

*Wilson:* Keith, I had always thought that the Act itself was really a compromise type of thing; one in which Southern California Gas, Pacific Lighting, and PG&E took a realistic view of the possibility of siting a terminal at Oxnard, the problems of going through the different California agencies and the Court of Appeals, and what that would do to your gas producers in Alaska and the Indonesian Government. On the other hand, you had the squeeze coming for the remote site and said: "Okay, this is the deal: we'll go to the PUC. We can get quick Supreme Court review if we go to the PUC one-stop siting process, and we'll agree to go to Little Cojo Bay in a short form." Is that not correct?

*McKinney:* Well, there are certainly elements of correctness in it. The question of remote onshore siting was one decided upon by the Assembly leaders without any concurrence from us. We were advised that if there were to be a Bill, remote onshore siting would be in the Bill, and if we wanted to follow the direction of the Bill we could. But, if we didn't want to, we'd be out of the picture—so political realities came to life. There was no other way for us to come out of that process with legislation which would clean up the permitting morass in California.

I think everybody would agree that no major facility has been sited in California since the Coastal Commission has come into play. That may be in part because there haven't been that many of them willing to run the gauntlet; I don't know. But, the political realities are what they are; and I've learned much more about the political process during this selection process than I ever hoped to know. The art of compromise is not one that comes easily to the understanding of an engineer. It's either right or it's not right. In the Legislature there's a lot of mixing, and it was, in fact, a political decision, and not one I can take much credit for.

*Baird:* I've got one comment about the Act. The Coastal Com-

mission was given the role of ranking and evaluating the various potential LNG sites on the coast based on their relative merit and their compatibility with Coastal Act policies. We started out with eighty-two sites and through a very long process narrowed it down to five sites, which eventually were narrowed down to four final sites. I think the biggest constraint and the biggest thing that's being implied here is the fact that we had to rank Point Conception in our ranking. If we had applied the criteria that we had applied to all of the other sites in this process, Point Conception would have been knocked out, as was the Los Varas site in the latter part of our process. Even though we could not knock it out, we went ahead and ranked Point Conception with the various other sites that we had at the end of the process.

I think our greatest concern at that point was that, with Point Conception still being evaluated, the three other sites that the Coastal Commission had ranked were eliminated from the process completely, which left only Point Conception as a site. There was no longer another alternative left.

Also, with the compromise on the offshore site, the Coastal Commission did an offshore LNG terminal siting study which cost 1.2 million dollars to conduct, but there is no provision in Senate Bill 1081 for precluding offshore siting. The offshore site is strictly being looked at for a second terminal. I seriously question whether the Legislature ever anticipated a second LNG terminal along the coast of California when you see all the problems that have come into play with just this one terminal. So, our biggest problem was that these three other sites were not left in for some further consideration.

We felt that the Camp Pendleton site was the best site in terms of our Coastal Act policies. I think offshore siting has so many advantages compared to any sites on shore. You don't have the land use problems with the construction, the archeological problems, the military conflicts, and the visual problems are not nearly as severe. In terms of seismic problems, the facility which we found to be the most appropriate offshore was a floating facility which is not connected directly with the ocean floor through a hard connection. It is a single point mooring system. Marine resources and other things which are protected by the Coastal Act are not affected with the same impact from this type of facility.

So getting back to the process itself, I think we should have left everything open after the PUC decision and continued to look at

the possibility of offshore siting and the possibility of some of these other sites. If Point Conception is, in the final round of these proceedings, eliminated because of seismic problems, there would be no LNG alternative, which I think is very restrictive of the process.

*Wilson:* I want to respond, not to defend the PUC, but rather to express one of the interesting things that happened from our point of view. Although I'm not sure the Coastal Commission would take the same stance today, I'm referring to their exclusion of the Los Varas site. WLNG probably breathed a sigh of relief when that happened. However, under the 1977 Terminal Act, it would have been very difficult for the PUC to decide on the Point Conception site if Los Varas had been ranked. I know everyone says that it was mandated to go to Point Conception. But legally speaking, and with court review, I think it would have been difficult under the Statute and on the basis by which the PUC could eliminate the higher ranked sites, to get around the Los Varas site. That would have created its own political problems: the University of California at Santa Barbara, the City of Santa Barbara, and whatnot. I have a feeling that if the PUC hadn't selected that site, the Court would have told us to go back because our standards and the way in which we eliminated the other sites were improper under the Act itself.

*Baird:* Thus, you feel the three additional sites had to be eliminated once the PUC picked Point Conception?

*Wilson:* Well, that's a technical argument. I don't know why, and this isn't in defense of the PUC, but there was no way, if you thought you needed an LNG terminal, that we were going to go to Camp Pendleton and fight the battles with the Marine Corps and the Navy. The Coastal Commission had received a letter from the Secretary of the Navy telling them to forget it. The Coastal Commission also had received letters from the Nuclear Regulatory Commission telling them to forget the Rattlesnake Canyon site and to some extent the Camp Pendleton site, although that wasn't as extensive of a problem.

There were other problems with respect to Rattlesnake Canyon and those types of things. If you're looking to safety considerations and a balancing approach, I believe that of all the sites carried over, Point Conception turned out to be the best site. From an environmental point of view and from a safety point of view, Point Conception is the best site. That's my personal viewpoint on that.

*Knierim:* This illustrates the political nature of this because

there's probably a lot of self-defending that can be done. There was a very interesting thing that happened about the site ranking, and perhaps it would be useful to give a little background. The Coastal Commission went through, as Brian said, about eighty-two sites and came out with a final list and put them in order of preference on various environmental and other criteria.

The LNG Terminal Act told the PUC it had to pick the highest ranked sites, unless it found that there was going to be a delay in the providing of gas to high priority gas users in California by going to that site. If such was the case, the selection of the next lowest ranked site would be proper, if it substantially minimized that delay.

A high priority gas user is someone like you and I who uses gas to heat their homes or certain kinds of businesses. The low priority gas user, what the PUC calls Category 5, is a person who uses natural gas in boilers to generate electricity. That is the only thing we tend to be using natural gas for in California at the moment. We've got enough energy from other sources to cover the high priority uses.

The other thing that we found particularly amusing was that the PUC had to go three times through the process of saying: "This one's going to take too long; the next one will be faster," before they could get to Point Conception, and that process was based on the assumption that by now we'd already be building the terminal. Meanwhile, we were ourselves standing there and saying: "You're not going to be doing that because we're all going to be tied up in litigation this long."

It was in a sense an exercise in saying: "We're going to select Point Conception since we've already made the decision that that's where it's going to go." I have a great deal of sympathy for Mr. McKinney's company in one sense because you're going to ask yourself: "Well, gee, why didn't they simply go to the federal government and have them preempt the state's decision to throw out Oxnard?" The federal government could certainly do that, but it would have resulted in litigation, of course, and would have been quite a problem. There's a very simple answer to it. One of Mr. McKinney's people mentioned it to us out in the hall at a PUC hearing. We have to do business in California. Mr. McKinney represents a California based utility that looks to Lionel's Commission to set its rates and let it recover money. It's in no



position, no matter what it thinks, to back out of the local political decision. It's a very difficult decision for everyone to be in.

*Moderator:* I gather that one of the things that I'm hearing in answer to my specific question is that there's no one calling the shots. There's really no one helping WLNG. There's no one saying to us: "Look, we need WLNG. Here's where it fits into our energy policy. Because we do need it, and because we've assessed what its importance is, and the risk versus the cost benefits versus the need for it, we're going to assist you in facilitating the process." Nor has anyone else's role been clearly defined in assessing those issues either. We're dealing with technical aspects.

Let me move on then to a question which evolves from that. Really, I have two questions that evolve from it. The first one would be, drawing on your experience with Point Conception, and since you have a six dimensional process here, with which you only have two hands to deal with, where should this be decided?

You represent a multitude of interests. We can make an argument that from a national security standpoint, even from a national economic standpoint, we must have energy sources. It has been mentioned here that from California's standpoint LNG is a more desirable energy source than coal because we're a "have" state, not a "have not." The state obviously has environmental concerns, and those need to be considered. We also have federal environmental concerns in offshore sites.

Really, where should the allocation be? Who really ought to decide this problem? Should it be the federal government? If so, should it be the Congress which decides it? Should it be the Department of Energy which decides it? To what extent should the state, the Coastal Commission, and the PUC have an input into this process in order to facilitate an energy policy, whether we have an articulated one or simply feel a need for energy.

*McKinney:* Could I ask a question before that gets answered? You've mentioned twice that we're a "have" state, and I'm not sure what you mean.

*Moderator:* I meant with regard to gas as opposed, say, to coal or something.

*McKinney:* No, we're not. We're quite a "have not" state in terms of everything but high sulphur fuel oil. Most of the gas, practically all the gas, that is consumed in California today is imported. It's imported from the Southwestern United States, Texas principally. Furthermore, Northern California is fairly heavily reliant on Canadian gas. Most low sulphur oil that principally fuels

the boilers and industrial consumers in California is foreign oil. So we're a highly energy-deficient state.

*Moderator:* Okay. I think that's true, and I guess one of the things I'm thinking of Mr. McKinney, more than anything else, is that we have perhaps a better capability for importation into our state than, say, do the midwestern states or others.

*McKinney:* Of LNG?

*Moderator:* Yes, of LNG. You mentioned that as one of the more feasible choices simply because we do have the capability of introducing it through shipping.

Now, with those clarifications, let's . . .

*Knierim:* Well, at the risk of seeming feisty, I'd like to make one point about Mr. McKinney's clarification. We have a lot of gas in California that could be taken out of the ground that isn't. One of the intervening parties opposed to this is the California Gas Producers Association, who make the point that there are vast quantities of natural gas tied up under contracts with PG&E Company, which is one of the two partners in Mr. McKinney's organization.

There are years when those contracts allow PG&E to restrict taking gas out of the ground to ninety days out of the year. They've got a tremendous incentive, since that guarantees a long-term supply. Also, the way that utilities get compensated for providing gas is that it gets a set rate of return on what's called the rate base. In other words, how much money they've spent. It gives them, among other things, an incentive to spend a lot of money and put expensive things like LNG terminals into the rate base, instead of cheap things like gas wells on regular land in California, because the more they load in, the more they make.

*Clarke:* If only that were true. If only that were true.

*Island:* I think that you've probably surmised a very highly opinionated point of view that we dispute. First of all, I think it is a matter of very clear record that there are not substantial quantities of gas in Northern California going unproduced that would in any way approach meeting the needs of the California gas consumers. Those contracts are a matter of public record. They've been debated; they've been litigated. To the best of my recollection,

tion, that process has gone all the way to the California Supreme Court, or near there, and its been approved.

However, I think the significant statistic you're looking at here is nine hundred million cubic feet of gas per day, a very substantial quantity. We don't have volumes like that in the ground which are going unproduced. I'd like to address the question you've asked, which goes to the very heart of this Symposium today: Who should decide the very difficult questions that are inherent in WLNG's proposal?

I've been working with this one project almost exclusively for about nine years, and my effort in this project leads me to conclude that the decisions are being made in the right places, but much too slowly. I think the State of California or any other state which is host to a major energy facility certainly has a role to play in deciding the whole question of whether or not it's needed and if it's aimed at serving residents of that state. It's a policy that stems from something you're very familiar with, and that is the inherent police powers of the state. California has sought, albeit very late, to assert its concept of land use planning and, to some extent, natural gas energy policy through the LNG Terminal Act of 1977.

By the way, if you'd like to bore yourselves some Saturday, I think it's found at about section 5550 of the Public Utilities Code. Through that Act, the State sought to say: "This is our point of view on a large energy facility like this, the siting aspects of it, and the general question of need for the supply." We accept that because we do business here. We intend to stay in business in California and to undertake our role as a public utility, which I think Mr. McKinney alluded to as somewhat unique, because it's a role that a party may not abandon without permission. It's a concept somewhat strange in the American capitalistic system. Once you undertake the public utility obligation, you cannot thereafter walk away at your convenience. You've got to seek approval.

So, we intend to continue to undertake that obligation. It just makes good sense that the State should have something to say about land use planning and about siting a facility the size of an LNG terminal on its coast. We've accepted that. I personally don't think my client has been a victim of that. I think we've been a beneficiary of it. The policy decision came late, that's true. We'd rather have had it in 1965 than in 1977. What we had to do when we got the late decision was to commence the legal and regulatory procedures specifically required by the Act to receive approval.

With regard to the federal approvals that are required, you may not know, and I'll just take a minute if I might, Professor, and give you a very broad one and one-half minute lecture on the federal aspects of this case. The Natural Gas Act, which can be found at 15 U.S.C. section 717, envisioned a scheme for approval of the transportation of natural gas in interstate commerce. Through a series of administrative decisions, it's now established that LNG is natural gas that comes within the Act's regulations and mandates. Therefore, the Federal Power Commission had jurisdiction to regulate LNG under section 7(c) of the Natural Gas Act.

The original application by WLNG was filed with the then Federal Power Commission. We sought approval, under section 7(c), to construct and operate three terminals on the coast of California: in Los Angeles Harbor, Oxnard, and Point Conception. At that time, WLNG's application envisioned a rather unique process. We confronted the federal decision makers with a land use planning concept. That is, we said: "We've identified three sites through an extensive site selection process. We would like to get approval now of the acceptability of those sites. As projects are put together to bring LNG into California, it would be designated to go through one of those sites."

As you can imagine, the Federal Power Commission was perhaps astounded by that concept. The Commission did not want to embark on that kind of process, and they cited some very technical reasons in support of their position. They said: "We don't think that at the end of any proceeding we could have on that concept we would have enough data to issue permits under the Natural Gas Act." So we were forced to await the filing of specific projects for each site. That was under section seven of the Natural Gas Act.

Also, something happened that hasn't been mentioned here, and I think it's very important. The importation approval authority in section three of the Natural Gas Act was taken from the Federal Power Commission. The Federal Power Commission itself was extinguished and its section three import responsibilities given to an independent regulatory authority within the Department of Energy. That authority, contained in section three of the Natural Gas Act, was then transferred to the Economic Regulatory Administration.

We had applications pending at that time with the FPC. So, when the Department of Energy Organization Act became effec-

tive, WLNG's application for the Oxnard site was then transferred to the Economic Regulatory Commission for decision. That was a further complication which the project had to deal with and accommodate. In effect, this transfer had its own impact on the timing of the approvals.

We have accepted regulation. In fact, my client and I think most utilities are quite comfortable with the concept of being regulated, and we've been that way ever since the Public Utilities Code was first enacted in California. We don't run from it; we don't fear it. We have learned to accept the fundamental position that the state and the federal governments have a role to play in energy decisions that affect large segments of the population. We don't have a problem with that. We have not tried to avoid it. In fact, I think Mr. Liss can tell you, we have enthusiastically sought regulation of all aspects of our LNG project.

If I'm to answer the question, and I'll stop because I hear a few sighs, whether or not decisions are being made in the right places, my answer would be yes; they are being made in the right places: the federal and state governments. The problem is, it takes so long to make the decision that it has an adverse impact on the project costwise.

*Moderator:* Mr. Liss?

*Clarke:* I'd like to make a comment to follow up, if I may. Two points are being made. One, I think it is merely a general feeling that LNG is necessary. I'd like to clarify that. The necessity of LNG was the subject of extensive hearings before the PUC, and a direct determination was made as to the need for the LNG supplies in California and the role that LNG was supposed to play in California's future. It has also been the subject of extensive hearings at the federal level. In adjudicatory proceedings, after the presentation and cross-examination of witnesses, thousands of pages of testimony, and hundreds of pages of exhibits, it was determined that LNG should and must play a determinative role in the decades ahead to meet this nation's energy needs. Both the state and federal governments have officially said that. So, in case any of you have the idea that the gas supply problem is just kind of a gossamery cloud that happens to go between us and the sun now and then, it's not. It's a very real problem, and very real determinations have been made.

The second thing I'd like to clarify is the concept that somehow a utility earns and earns and earns. That is simply not correct. We have recently filed a rate reduction of 128 million dollars before the PUC for the very fact that sales during the period exceeded those anticipated, upon which we were authorized to col-

lect our fair cost of doing business. The result is that we are refunding that to our customers, and there will be another refund in February because of a flow through of certain producer refunds at the federal level. We are not guaranteed a rate of return in any way, shape, or form. If we overcollect, we have to refund the excess, and that is solely related to our cost of gas. All other costs are hopefully recovered in the rate of return. We are not guaranteed those costs at all. It is hoped for and is a target which we have never been successful in attaining.

Now, as far as the issue of earnings is concerned, it's not the simple matter of just selling gas and earning and earning and earning as much as you can if you sell more than you anticipate.

Moreover, since we're dealing with a federally regulated entity, it's going to be nearly impossible for a facility which is designed to deliver 940 mmcf a day to get any more than that through the facility in order to play around with volumes and sales. You're pretty well restricted just by the physical limitation of getting the gas all the way from Indonesia.

Increasingly, even at the federal level, there's been a recognition that the excess collections of cost should be refunded in subsequent rate adjustments. Consequently, there is no hope that we are ever going to earn anything in excess of what we're authorized, and I would personally advise my client that there's little chance of ever earning what is authorized. Thank you.

*Moderator:* Mr. Liss, you had a point a minute ago about the federal and state . . . .

*Liss:* I was about to respond to Eddie's point, but now I feel like I'm in a tag team match. In light of what Tom Clarke and Eddie Island just said, I really only have two reflections on the process as it's applied to this case.

I agree with much of what Eddie has said about the state and federal processes; obviously, both must play a role. I think the constant cry of, "delay, delay, delay," misses the mark in many respects. However, Eddie's example of the switch in jurisdiction over natural gas imports from the new FERC to the Economic Regulatory Administration in the Department of Energy was rather insignificant in the progress of this case.

I don't want to defend or attack that statutory set up, but I don't think it played much of a role in the delay. There was a joint hearing in the federal proceedings for the Economic Regulatory

Administration and the FERC. It took place at the FERC. The FERC played the lead role there, and in fact, on the siting question, the Economic Regulatory Administration basically deferred to the FERC. I don't think that was a delay factor at all. I believe that utilities have to recognize, and that they *do* recognize behind closed doors, that much of the delay is due to the fact that these are terribly complex projects, that problems arise, and that the problems have to be aired if an intelligent decision is going to be made. Look, for example, at this case. There is this discussion about the years of delay, and I think it's fair to start the clock from the time California passed the LNG Terminal Act. The delay may have been far less, but for a completely unforeseen development that had to be taken into account. In April of 1978, a geologist for the Hollister Ranch Owners Association walked on the site and found a very serious earthquake fault. That started a chain of events that you've all read about in the papers, producing a massive amount of evidence, a very complex proceeding, and an assessment, which the parties are still fighting about, as to whether or not this is a seismically suitable site.

Now that was something that simply couldn't have been anticipated, and yet, I would hope that the applicants would not be suggesting that's something we shouldn't be looking at. It's a delay that wasn't built in, but it's delay for a good reason, mainly to take a look at a very serious question here.

With respect to the need question, again, in Tom Clarke's assertion that it's all taken care of, it is true that the federal government has made a finding that this LNG is needed. Certainly it hasn't been our position that LNG or the supplies represented would never be needed in any circumstance in the future of California. However, the critical question is whether it's needed in the time frame which it's proposed for, and if not, doesn't that mean that we have some time to look at some alternatives that would be less offensive than the Point Conception LNG alternative appears to be to so many groups.

In that regard, the findings on need in the federal record were made on the basis of supply and demand forecasts, made and supplied by the applicant companies in 1977. It's no one's fault, but supply and demand projections can change drastically over the years. It's been Bixby's position, hotly disputed by the applicants on the other side, that there *has* been a significant change, and that change means that the supply and demand picture is much better than was thought in 1977.

We're not saying that there's not a need for any more gas, but what we're saying is there's time to look at less offensive alterna-

tives that weren't known in 1977. Frankly, we think that the decision on supply and demand on the federal record is one of the most vulnerable areas of the federal decision, simply because it appears to us to be an outdated decision. So I don't think it's an established fact that the LNG issue is needed in the time frame in which it's proposed or ultimately will be needed at all.

*Wilson:* Let me just respond from state government's point of view, and this is something that is going on now at the PUC. I kind of agree with Eddie Island that the decisions are being made in the right places.

When we were looking at the need for LNG in California and wondering what its impact would be, we started looking at the cost of LNG. Well, one of the considerations being pondered at that time was, if California imports LNG at the rate of 900 million cubic feet a day, will the federal government then require California to back off of cheaper gas coming from Texas and the Southwest? What *will* happen in the future if California does import 900 million cubic feet of gas? Will the federal government require that we price that gas at the marginal cost of the importation or could it be rolled into the other cost of gas being imported to California? From California's point of view, it was important to know what the "Feds" were going to do in reaching a decision.

At the same time, California was gazing into a crystal ball. The one thing I was thinking about regarding this Symposium is that we could deal effectively with the technological issue and the environmental issue. I feel we have dealt with them effectively, both in terms of trying to mitigate them and in terms of the safety considerations. Despite this, the real problem is crystal ball gazing and getting involved in what we are going to do about energy in California.

The terminal itself, for which the price of construction is up to about a billion dollars, will probably end up costing, in inflated dollars, over three billion dollars. This includes facilities in Alaska, the shipping end of it, and the California terminal. This will have a tremendous impact on California and on the California consumer. Also included in this is the question of need. I agree with Tom. The PUC did make a finding as to need, as did the federal government, but three years have elapsed. Not only is the PUC now concerned about the cost of LNG in California, but to some extent there are concerns about the impact upon our other



supplies. PG&E, for example, has taker-pay agreements with the Canadian government. If they don't take the gas, they still have to pay for it. If we bring LNG into California, PG&E may be required to back off of Canadian gas. These are considerations that have to be dealt with.

There is some kind of need, I think, to look at where we are today in light of the 1977 decision on the need for this gas supply, i.e., at its cost. There are other considerations. How is this going to be financed? Can the utilities finance this? The Commission has under consideration and has implemented active conservation programs. There are only so many dollars in the pot. Choices have to be made as to where those dollars are going to be spent. The utilities themselves only have so many dollars. If they're going to finance it, are they going to need some novel financing mechanisms? If utilized, how would these mechanisms impact the California rate payer?

It's just not a land use type of decision. The big decisions that are being faced are not the environmental ones but rather are the ones regarding need and economic consequences. These are decisions we don't have any handle on, and I don't know how we can get away from the mounting cost of these projects and reach some kind of consensus as to how we should channel energy policy decision-making. One of my thoughts was there's a need to put the regulator in the board room or the board room in with the regulator. The problems with that, of course, are due process considerations in the fairness of how you reach decisions, while allowing citizen input. Those are some of the thoughts that I have on the problem we are dealing with.

*Island:* I think I'd be somewhat remiss to my client if I didn't go back and address, without intending to debate it here, the concept that a very serious fault was found on that site. I feel this concept has been resolved. What you heard was Mr. Liss's point of view; my point of view is the extreme opposite of that.

The administrative processes that apply to this proposal are grinding slowly to an ultimate decision. One of the steps along the way has been the determination that the fault, which Mr. Liss referred to, is not a significant one for the facilities that we're proposing. I don't want to debate that extensively because those decisions are on the record. You can go and look at them if you'd like. I can give you a string of cites.

I think we're arriving at a very crucial aspect of the discussion. Lionel mentioned one possible way to address these policy questions would be to put a regulator in the board room. I would suggest that's the last thing we would want to do. The process, as it's

structured now, provides for independent economic and public interest decisions to be made by private enterprise. Namely, the way this thing evolved was that Pacific Lighting sat down and looked at its supply-demand data and determined that additional gas supplies were required. They conducted the necessary economic and engineering studies and got a handle on the cost and answered the question of the engineering feasibility. We made the decision to propose these projects. The way the public input comes about, and I think it's the right way, is to have us file the proposal with a public agency that's charged with protecting the public interest and then put on the public record all the details of the project, from how the decision was made, to the cost and engineering feasibility. We then provide a forum for a debate of the broader public policy consideration. That was done.

I'd like to address one other thing that Jeff raised that I think is a serious concern to people who practice before administrative agencies and to the whole question of administrative law. You always have inherent in a process that takes years to come to a conclusion the question of the staleness of the record. That's also true of any court case you try. You have to draw a line, make a decision, based on the information and the data that has stood the test of vigorous cross-examination and public scrutiny. On that data and on that record you must come to a conclusion. That was done in this case. The agencies looked at our supply-demand data. It was cross-examined extensively by Mr. Liss and the other parties who opposed the site. As an interesting aid to those of you who might someday practice either administrative litigation or in the civil courts, I received from Mr. Liss a data request that looked rather gentle and mild at first glance. I turned it over to my client after my own legal analysis of it, indicating that the data could be easily provided, and I recommended that it be provided.

My client called me back and said, "Do you understand that this is about five feet of data?"

I said, "No, I didn't understand that it was going to be that much," but that was the result. We served, in response to their data request, about five feet of data that focused on supply and demand issues, and the whole subject was extensively cross-examined.

The conclusion reached by the agency was that this gas is indeed needed. Now I think what Mr. Liss is asserting is that some

two and one-half years or so have now passed since that data was put together. What do you do? I think the U.S. Supreme Court provided a guideline in a case entitled *Vermont v. Yankee*. The Supreme Court came to the conclusion that you do have some question of staleness, but you have to reach a decision on an administrative proceeding. You have to shut it off at some point in time, and you have got to get on with doing whatever it is that's being proposed, so you can continue looking out for the public interest.

We are confident that the holding of *Vermont v. Yankee* is going to provide the necessary umbrella to protect us from the assaults planned by Mr. Liss and his client on this whole question of the need for the project supply.

*Moderator*: Let me get to Mr. Knierim. He had asked a question.

*Knierim*: I wrote your question down and thought that I would actually try to provide a short answer to it. Not being an energy lawyer, maybe I have again a different position. I think the decision is being made in the right place, several of them in the wrong place, and several of them on too many levels. I think things like this ought to be decided in the federal arena.

The reason is very simple. You have in the land use business what's known as the "someone else's backyard" rule, which says, if we need a military base, let's build one, but in someone else's backyard. If we need an LNG terminal, let's build one, but not in my backyard.

Assuming that we need an LNG terminal, which we dispute, and if you ask any city on the coast in the United States, "Would you like to serve the national interest and have an LNG terminal with a big industrial facility and lots of ships coming back and forth and make some of your beach industrialized instead of a place for people to lie in the sun on?" They'll say, "No, put it on their beach." You ask a city, "Would you like to have a low and moderate income housing development?" They're needed, we all agree with that. They'll respond, "It's inappropriate for the way we grow trees in this municipality. Put it in their city." You have this to some degree in California, which is not really a proper place to look at something that is supposed to be a facility to serve the energy needs of the country or contribute to a part of it. The State is tying a certain kind of knot in my backyard rule or only parts of my backyard, by asking, "Is this good for California? What will happen to California?"

Well, we're not talking just about California. We're talking about the country. We're talking about something that may or

may not be good for the national interest generally. I think the further you take a controversial decision away from the local arena, where it is likely to have the heaviest impact, the more you get it away from politics, and the more you increase the chances of getting it into some kind of objective process where you might actually have a decision made on the facts and the merits.

*Moderator:* Let me ask one other question, which I think will provoke a lot of different people in different ways, and it's not asked simply to provoke. Sohio, when it was proposing its terminal and pipeline, became extremely frustrated, obviously, and from a cost standpoint, having spent millions of dollars attempting to secure their goal, it finally decided to abandon its proposal. Now, we've talked about the staleness of the record problem and how you deal with that. From that standpoint, there has to come some point at which you draw some lines, because otherwise the record would always be stale in the process we have. The degree of staleness would be another thing, but it would be stale to some extent or the other.

My question really comes down to, at what point do the dollars involved really become so enormous that we can't back away from one standpoint, or at what point does it become so financially unfeasible that we can't afford to even begin?

*McKinney:* I might touch upon that one just a little bit. One of the long run advantages of a capital-intensive energy project is that once the capital is fixed, rate treatment is such that the cost component to the consumer declines with time, whereas the commodity cost of the material you're transporting is going up, so it tends to level the cost a bit over the raw energy cost and the cost of oil, which of course do not have a high capital component.

When you talk about where it becomes uneconomical to proceed because of increasing costs, the cost of oil must be the focal point. It sets the cost of energy at a higher rate than has the cost of the capital portion of the plant. We changed the scope to some degree as we went through the California process when they imposed some additional things on us, but, by and large, the main problems are the carrying costs and that each year there's another ten to fifteen percent added on because of inflation. Some years, oil costs have gone up something like eighty percent.

So as long as we're in that kind of an environment, you don't price the LNG facility out of the business. When it is finally put

in place, it does provide a shelter to offset some of the increasing costs of the fuel. As to when you have so much sunk in a given facility that it must go forward, that's really not a decision of the sponsor. We propose, the regulators dispose, and we have to deal with that after the fact.

*Clarke:* Along those lines, I'd just like to point out that the PUC has a policy of pricing our sales to our low priority customers based upon the alternate fuel costs in Southern California. So the direct parallel to oil and gas is a very appropriate one. We are now required to charge a price which must be competitive with alternative fuels in Southern California.

Thus, the Commission, through its policies, has determined the high priority customers, who then pick up less of the total costs of providing service on a system that would otherwise be economically allocated to them.

So there is a direct relationship between what oil is selling for in Southern California and what gas is selling for in Southern California by PUC mandate.

*Wilson:* Your question gets back to my old notion of policy and involvement. I don't think that putting the PUC in the boardroom is an attractive way to proceed. Nor do I think it is an attractive way to proceed through our present reactionary process of energy siting. The process that is laid out for us by the PUC or the FERC is always one of reacting to the proposal of the utility.

It seems to me that there should be some kind of holding of hands, if you will, in going forward and making and planning our energy needs. I agree you should air all of the concerns in an adversary proceeding. This raises questions of whether the adversary proceeding is the appropriate type of forum to make and decide those types of issues.

In looking at the financial market, its sponsors being Pacific Lighting and PG&E, you realize that they have only so many dollars to spend and that, at some point in time, they might have to say, "We can't do it." In fact, there have been times when they've said, "If we had to go to the financial market today, we couldn't raise the money to build this facility."

*McKinney:* No, I don't think we've said that, Lionel. We've said we might not like the interest rate.

*Wilson:* One of your sponsors has told me that anyway.

*McKinney:* It's just the cost of money, I think.

*Wilson:* Well, they know it wouldn't make any sense to go to the market at that time. Let me just throw another light on the

subject, and this is not LNG related in terms of determining at what point you back out of a project, but it certainly is related to the Diablo Canyon facility, the prime example of this problem, although we're getting there in LNG.

You have one and one half or two billion dollars of money invested in that facility and a proceeding going on now to determine whether or not that facility should ever be utilized. Can you back out at this point in time? I don't know. The Governor seems to have one point of view, and certainly the utility has another. Regardless of who wins, the person who's going to be impacted by the decision is the California rate payer.

*McKinney:* I might just make a comment on that. Praise be that in the case of natural gas the federal regulators and the Congress did not expose gas facilities to the same double jeopardy they have applied to nuclear plants. A nuclear plant is required to get a construction permit, and then, after it is fully completed and ready to go into operation, is required to get an operating license.

This approach was urged on the federal regulators in our case as a way, in effect, to make it very difficult to finance, because that would be a shadow over it. We were going to project financing such that the facility was almost like a revenue bond in treatment. That approach was specifically rejected by the Department of Energy decision makers in language that said, if the facility is allowed to be constructed, it should be allowed to be operated. Obviously there are safety reviews; there are many, many reviews and ongoing regulation. The depth of regulation is more intense than many of you here might realize.

While we may not have a utility commission representative in the board room, we surely have him in our shop. Furthermore, we will have them all over the plant site. So it is intense, and we will have it in both jurisdictions.

*Unidentified:* Just a comment from California's point of view, and at least the CPUC's, LNG has proved to be novel. It's novel with respect to the amount of time we've spent in reviewing and reaching a decision on the project. If you look to PG&E's application to build Diablo Canyon before the California Public Utilities Commission, I can't remember how many days of hearings were spent, but there were seventeen pages written on the decision, and, at most, there were two to three weeks of hearings. You

know that here in California we've had over 100 days of hearings on LNG. The decision itself was very voluminous.

The second thing is that the mandate by the Legislature to involve the PUC in the ongoing monitoring of the terminal, from cost and safety construction points of view, was certainly a novel kind of approach, not even utilized by the NRC itself. The NRC uses a licensing function as an alternative. The monitoring requirement puts us in an entirely different position than we've ever been in before, in terms of finally signing off, approving the cost, and passing them on to the California rate payer.

*Island:* I think you can see the complexities of the process and the shifts that have been taken as we've gone through it. I think this group should recognize that staleness of the record comes about for a couple of reasons. One is because agencies take a long time to go through the process, perhaps longer than is truly necessary. In this case, I can point to a couple of examples where there were significant stretches of time when nothing was happening because the agency wasn't given a priority that could've kept things happening. Secondly, some of the delay can also be attributed to the very active opposition by Bixby Ranch Company and the Hollister Ranch owners, which illustrates that if staleness of record through opposition can be grounds to reopen and relitigate the case, then the opponents to major projects have an automatic win.

*Moderator:* I'm going to allow a short rebuttal for that, and then we need to break for lunch. We'll take up some other aspects this afternoon.

*Liss:* I just want to address this staleness question in a more academic fashion. It's a very difficult problem that the agencies face. On the one hand, if there are opponents, there is going to be a larger stretch of time than if there are not. If the utilities could walk in, put the evidence down on the table, and get the stamp of approval, then there would be a shorter process. But presumably, if there's opposition and if it's opposition that takes time, it's because the opposition is worth listening to, and it takes time to evaluate that.

On the staleness question, what, in essence, you've got is an inherently long process with evidence put in at a certain time. You've got all kinds of developments. You look back a couple of years later, and someone then says, "Hey, wait a minute, there have been changed circumstances. Your decision or your evidence is outdated. You shouldn't make a decision on the basis of

this evidence because you're going to be making a decision on useless, irrelevant evidence."

Now, the opposition to that contention is going to be, "It's not useless and irrelevant evidence. Of course there have been some minor changes, but you've got to stop somewhere, and let's draw the line here. Nothing major has happened."

The issue is joined on whether anything major has happened or not, and it's a judgment call that the agency has to make. Obviously, our side on supply and demand is saying, "There have been major developments," and the other side is saying, "No, there haven't." But it is not as if there can be a policy established on staleness, which, upon reopening the record, should be applied in every case. It turns simply on the question of whether the evidence is new or not; if it is new and if it's significant, then I would submit that an agency has no choice but to reopen the record. Otherwise, it is making a truly irrelevant decision by making a decision on the basis of evidence that is not up to date.

*Wilson:* One comment is that one of the interesting things from our point of view, and what has actually happened, is it really was the discovery of the Arroyo fault on the site that slowed things down, preventing a final decision. WLNG proposed, at that time in their brief, that the Commission grant the permit and allow them to go forward with the construction using as a basis their agreement to go out and do all the necessary geologic and seismic studies and gear their construction criteria based upon what they discovered. It would have been possible for the PUC to construct its decision in such a light. It may be possible that, as a result of all this study, it might have been the right thing to do. Seismically speaking, in terms of construction and safety, the real question is whether or not the time elapsed has provided an opportunity to see where we are going with this project.

*Moderator:* Okay, Gentlemen, I'm going to terminate the discussion even though it will be unsatisfactory to everyone, I'm sure, and close this part of the program with the comment that I think one of the most useful things out of this is that it's given us the opportunity for old friends to get together. We'll resume our discussion at two o'clock.

*Moderator:* I want to allow some time at the end of our presentation for those frustrated people out in the audience to relieve themselves of their questions.



I want to introduce Mr. Charles Warren.

*Warren:* I have as a title for my remarks today on LNG and the decision-making process: "On Feeding Caviar To Chickens," the meaning and relevancy of which will become a little clearer later in my remarks.

I think it's fair to say that, recently, California electric utilities have begun to respond to over six years of government efforts to turn California's economy away from the policy of accommodating unrestrained energy demand using traditional nonrenewable energy supplies and toward an economy of more efficient and productive utilization of energy of all kinds, but with greater emphasis on nontraditional energy sources such as direct solar, wind, geothermal, and so forth.

Current projections by the California Energy Commission and the electric utilities agree that the demand for electricity in California will grow at a rate of no more, and probably less, than 1.7% a year. That figure is significant because it represents a decline of 300% of the rate of growth projected by the utilities only six years ago. This decline is testimony to California's growing energy efficiency, productivity, and electric utility realization. The historical policies designed to boost growth rates are counterproductive in terms of utility profits. In addition, Southern California Edison has recently announced plans to meet about thirty percent of its projected electricity demand growth from such renewable and alternate supply sources as wind, geothermal, solar, fuel cells, and cogeneration. It's further testimony to efficiency and productivity that such sources are approaching technical and economical feasibility at a rate far faster than most corporate managers and government officials realize.

On the other hand, decisions of natural gas utility managers seem to reflect the same archaic and immovable mentality that electric utility managers once held but are now abandoning. This is particularly true when it comes to their plan for LNG, the nature and site of which are the subject issues of this Symposium. Let's examine that allegation.

It seems clear, at least to me, that the current commitment by gas utilities to LNG generally, and to Point Conception specifically, cannot now be either justified or explained, other than by a stubborn attachment to primitive and outmoded utility management policies. As I will attempt to show, not only is the technology of LNG uncertain, but its economics, its safety, and its usefulness are all questionable. Furthermore, Point Conception, as a site, is among the most seismically active, the most naviga-

tionally treacherous, and the most pristine of the few remaining undeveloped areas on California's coast.

First, let's examine LNG generally, by reviewing its history and its present status in the United States, and I ask your forgiveness if I'm covering ground already laid or tilled this morning. Presently, the United States and California use natural gas for approximately twenty-five percent of their energy needs, or to put it another way, for about one-half of all nontransportation energy requirements. Nationally, annual consumption is about twenty trillion cubic feet. Most of our supplies are produced domestically, and that portion is rising significantly as federal price controls gradually expire. Supplemental supplies are imported by pipeline from Mexico and Canada and will be piped from Alaska by the proposed Al-Can pipeline system, a western leg of which will link up with the California natural distribution system.

Two California distributors, Pacific Lighting Corporation and PG&E, through a subsidiary corporation, WLNG, have proposed importing additional supplies of natural gas from Indonesia and Alaska using cryogenic technologies. Now, these technologies require large capital expenditures for liquefying, transporting, and regasifying the product, a process which adds to the cost of the natural gas approximately \$1.50 to \$1.70 for every thousand cubic feet of product. It is a technology as yet unperfected and requiring special consideration for shipment, unloading, storage, and processing. Just two examples might be cited for that. Among the more recent and prominent were the rejection of the three brand new and unused Avondale tankers, which resulted in the largest marine insurance payment by Lloyds of London in its history. All were cryogenic tankers, and all were found to have had defects which made them unacceptable for use as designed.

Secondly, let's examine the recent three month shutdown of the Cove Point, Maryland facility, when no more than a cup full of LNG spilled and blew up the switchgear building. Now there are presently in the United States three LNG product facilities in place. One, by District Gas Corporation, is located in Everett, Massachusetts and is capable of importing about forty-two billion cubic feet a year from Algeria. The second, owned by Columbia Consolidated, is located at Cove Point, Maryland, as I just mentioned. That facility has imported up to 130 billion cubic feet yearly, also from Algeria. The third belongs to the Southern Energy Company at Elba Island, Georgia, and has imported up to

130 billion cubic feet yearly from Algeria. All three, when totaled, provide less than two percent of the natural gas provided for our national consumption.

Since April 1 of this year, all those facilities but the District Gas Facility have been shut down, and their tankers are idle because of a price dispute between the United States, on behalf of the El Paso Gas Company, and Algeria, on behalf of its marketing corporation, Sonatrack. Algeria seeks to price its resource on a BTU equivalency basis with crude oil, which would mean a price of about \$6.00 a thousand cubic feet. This would mean that transportation and processing costs of approximately \$1.70 would be added, as I've indicated before.

The United States utilities would be paying \$7.70 per thousand cubic feet at the distribution pipeline. The U.S. position in the dispute is that the price should be equivalent to residual oil because that is a product form which can be used as a boiler fuel for a price as it works out on a BTU basis of about \$4.47 a thousand cubic feet, the price which we are in fact paying Mexico and Canada for their pipeline gas. It is the further position of the United States that the \$4.47 price should include transportation and processing costs. This would mean that Algeria would receive no more than about \$2.80 a thousand cubic feet at its point of export. The dispute is still unresolved and, as a result, for the last eight months, Algeria has refused to ship LNG to the U.S. facilities, and all those expensive cryogenic vessels and processing plants have been idle.

As further point, Algeria has not abandoned its stated efforts to form a cartel of natural gas exporting nations to support its goal of crude oil price equivalency, and Indonesia, its partner in OPEC, is a target member. Now, the argument used by Algeria in this dispute is telling and instructive for California. As quoted in the *Oil and Gas Journal* of July 21 of this year, Algeria argued: "The fact some consumers opt to use gas as lowgrade, steam-raising fuel can no longer determine its price. It is as if an eccentric farmer were to claim that because he wishes to feed caviar to his chickens the price of caviar should be the same as that of corn."

In the meantime, back in California, despite all the questions suggested by this history of supply and price unreliability, natural gas utilities continue to spend significant amounts of money, as much as \$260,000,000 according to recent estimates, to increase the dependency of California consumers on LNG.

Let's examine some of the questions this history suggests, which lawyers and policy makers should reflect on in determining the issues involved in this controversy. First, is LNG needed in

California? Perhaps there is such a need that any price would be reasonable. But contrary to the alarms which utility executives have used to panic business leaders and public officials alike, the answer is clearly no, not in the foreseeable future. It is fairly clear that for the next several, at least twelve, years natural gas requirements for uses other than as fuel for steam boilers to generate electricity will be met from the lower forty-eight Canadian, Mexican, and Alaskan sources.

So all residential, commercial, chemical, and other industrial requirements will be met over the next twelve years or more without the need for foreign LNG supplies. As the Algerian analogy of feeding caviar to chickens suggests, using LNG to fuel electric utility boilers is an expensive eccentricity, particularly for those who consume electricity.

To make matters worse, PG&E, for example, cannot show a need for LNG even as a boiler fuel for the next twelve year forecast period. In other words, PG&E can't show a use for the LNG even as caviar for chickens. As for Southern California Gas, PG&E's WLNG partner, it can meet all nonutility boiler fuel needs and a significant share, and perhaps all, of utility boiler fuel requirements for the next twelve years or more. According to the 1980 California Gas Report and the utilities' own figures, in 1992, for Northern California, the normal requirements of all natural gas users, including utility boilers, will be met, and a surplus of possibly as much as 500 million cubic feet a day will remain. In Southern California, all such needs, including possibly utility boilers, will be met, and a surplus of as much as 300 million cubic feet a day will remain—so much for the need for the product in California.

Next, let's just assume the possibility that, in Southern California at least, there should be an opportunity to market reprocessed natural gas from LNG to electric utility customers. The question then would become, whether it would be legal for it to be done within the critical time period or in the time period beyond twelve years. The fact is that the Power Plant Act and the Industrial Fuel Use Act prohibit the use of natural gas as a primary energy source in new power plants and further prohibit its use in old plants after January 1, 1990 and, until then, requires that natural gas be used only in such proportions as were used during the 1974-1976 period.

Noteworthy is that the same Act requires the utilities to use al-

ternate fuels such as petroleum, coke, biomass, industrial and agricultural wastes, geothermal, and renewable sources to make up for the withdrawal of natural gas from utility boilers; in short, to do what Southern California Edison, an electric utility, is in the process of doing. Thus, even if Southern California Gas acquires LNG for its utility customers, it is clear that present law would prohibit its use for such a purpose. It follows, there being no legal market for the resource, that there is no demonstrable need for LNG for any purpose, even for Southern California.

A third question: is LNG less expensive than either domestic or other pipeline imported natural gas from Canada, Mexico, or Alaska? The answer is no.

LNG, under all price scenarios, is much more expensive. Domestic natural gas is and will remain price regulated for a number of years. The current average price is less than \$2.00 a thousand cubic feet. As we have seen, Canada and Mexico have price parity and charge \$4.47 per thousand cubic feet. As for LNG, except as noted, it is no longer available at all, and its major supplier since April 1, 1980, has been refusing to sell for less than \$6.11 per thousand cubic feet. Admittedly, rumor has it that the United States and Algeria may agree to a price compromise, but under no conceivable circumstance would such a compromise be at a delivered price less than charged by Mexico and Canada. It is for these and other reasons that *Fortune Magazine* recently reported that El Paso, the company that imports LNG to east coast facilities, is "edging away" from the LNG business, and I say, so should WLNG here in California.

Fourth, will Indonesia follow Algeria's pricing policy for LNG? The answer is no one knows, and I suspect not even WLNG itself knows. At present, the terms of an agreement between Indonesia and WLNG associates have not been set and are not known. However, since both Indonesia and Algeria are members of OPEC and have collaborated in establishing price parity of their petroleum exports, it is most unlikely they would not do the same in respect to their LNG exports. Recall that it is a specific goal of Algeria to form a cartel of natural gas exporters, as well as to bring natural gas into price equivalency with oil at point of shipment, rather than at point of regasification. Indonesia has already given notice that it desires to renegotiate the price of its supplies. It is most likely that the renegotiated price will be close to or on a par with whatever price is ultimately negotiated with Algeria. It is understandable why the *Oil and Gas Journal* reported on July 21 of this year that LNG imports are likely to be phased out for reasons of safety, price, and reduction of import dependence.

The fifth question: is LNG safe? Do its benefits, limited as they now appear to be, justify the risk? At the heart of much of the concern about safety is the fact that LNG is transported and stored in massive quantities while being maintained at a temperature of  $-162$  degrees centigrade, by which is accomplished a 600 fold reduction in volume. Should LNG spill out of any of its containment vessels, it begins to vaporize into a colorless gas, which hugs the ground or water surface, freezing or asphyxiating. When mixed in air with portions of about five to fifteen percent, it becomes flammable. Exposed to any flame, say from a cigarette lighter, a pilot light, or a barbeque pit, the resulting fire would race back to its point of origin, possibly as far as fifty kilometers away, incinerating everything in its path.

There are other hazards. LNG is so cold that if it should leak from its double steel walled insulated containment vessels, it would embrittle and fracture the outer wall, thereby permitting greater leakage and spills. This is what happened in Cleveland in 1944, when over 100 persons were killed. But as this was long ago, the question might well be asked, has our technology since Cleveland acceptably improved? The answers are yes, it has improved, but no, not acceptably. As stated earlier, only recently did Lloyds of London make the largest marine payment in its history when it was learned that three brand new LNG tankers contained flaws of such magnitude they had to be junked.

Further risks of LNG stem from the fact that when it is spilled on water it can explode without ignition, as occurred in 1973, at a place called Convie Island on the Thames River. Also possible is the phenomena called "rollover," which occurs when LNG is transferred into a tank partially filled with LNG of a different density, causing rupture of the tank and valves. This happened in Italy in 1971. Or recently, in November of 1979, at the Cold Point, Maryland LNG facility, a small amount, no more than a cupful, of LNG spilled out of a seal onto an electric circuit. An employee investigating the leak flipped on a switch which caused a spark which then caused the vaporized gas to explode, causing the death of the employee, injury to others, and the shutdown of the plant for four months.

My sixth question: does LNG reduce the dependence of the United States on foreign supplies and thereby provide greater energy security? One would think that the answer to such a question obviously would be no. The obvious in this instance appears

to me to be correct. It does not contribute to the nation's energy security to substitute imported LNG for imported petroleum from the same nation, in this instance, Indonesia, or any other nation. Yet, curiously, that very argument was made by Assistant Secretary of the Department of State, Mr. Julius Katz, in a July 24, 1979 letter to the Chairman of the Federal Energy Regulating Commission, urging approval of the application to import Indonesian LNG at Point Conception. Approval was urged because, as Mr. Katz wrote: "Our nation is critically dependent on foreign oil which is in short supply and for which there are inherent risks to supply reliability. The Pak-Indo Project, if approved, would reduce the nation's reliance on imported oil." Given the Algerian LNG embargo, Mr. Katz's plea sounds somewhat off the mark. It is noteworthy that Mr. Katz's intrusion into a regulatory proceeding was by letter and not by any offer to appear personally so that his views might be scrutinized by public cross-examination. This was an ex-parte contact, the variety of which corrupts quasi-judicial administrative processes.

Seventh, if the law is modified to allow California utilities to use more natural gas as boiler fuel and such use requires the importation of natural gas supplies, should such supplies be in LNG form or is there a more suitable alternative? The answer to this question is that there *is* such an alternative, and it is methanol.

Natural gas can be converted in the field to methanol, which in its liquid form can be transported through existing pipelines and oil tankers. Furthermore, it can be easily stored in large quantities and in heavily populated areas. It can be burned directly in utility boilers and can be used for a number of other purposes, such as a transportation fuel, a chemical feedstock, a source of hydrogen for fertilizers, and so forth.

Given the uncertainty surrounding LNG, its need, its cost, its safety, its availability, and its only foreseeable use in California as a boiler fuel, it would seem appropriate now for government and corporate decision makers alike to postpone the rush to LNG and at least consider whether alternatives, such as methanol, might be more suitable for our national and state long-term needs.

Given what we know about the lack of need for LNG generally, and the economics and technology of LNG, what questions or considerations are there specifically for the proposed terminal of Point Conception, California? It is clear that the Point Conception area is seismically active. The most recent large earthquake occurred on November 4, 1927, with an estimated magnitude of 7.3 on the Richter scale. In a recent report, the United States Geolog-

ical Survey (USGS) found: "The Point Conception-Gaviota area and its offshore bench are underlaid by shallow reverse faults, including the Arroyo, the F-1, and the South Santa Inez, which have deformed the bedrock surface and its young cover. These faults are structurally inseparable elements of a regional system of reverse faults in a regime of ongoing compressive deformation. As a unit, the Point Conception-Gaviota area is being uplifted at long term average rates of three to four millimeters a year with historic pulses that exceed twenty-eight millimeters a year." These rates are comparable to the highest rates recorded on the west coast of the coterminous United States. Furthermore, the USGS has suggested: "Faults such as the F-1 and the South Santa Inez should be considered potential generators of earthquakes of at least Richter magnitude of 7.5."

Second, given the seismic nature and potential activity in the area, are there safety standards by which the non expert can be guided? Let's assume that none of us know what to do with the 7.5 Richter magnitude at that area in an LNG facility. Is there some standard that we might consider? Yes, there are such standards; but, unfortunately, it would be difficult for us to be guided by them.

Now, the reason that we cannot be guided by them is that they conflict. Federal standards suggest that, if applied to Point Conception, the project under consideration should not be approved. California standards leave it all up to administrative discretion. Let me explain. In amendments to the Natural Gas Pipeline Safety Act, Congress instructed the Department of Transportation, through its Materials Transportation Board, to adopt safety regulations for the siting, design, construction, inspection, and testing of any new LNG facility. Having done that, however, Congress went on to specifically exempt the proposed LNG facility at Point Conception from such regulations, at least in its present design configuration. Section 193.2061(f) of the regulations prohibits a LNG storage tank from being located in areas of high seismic activity. That regulation was adopted by the Department of Transportation after rejecting the arguments of WLNG that liquefied natural gas facilities should not be prohibited at any location because designers could design an LNG storage tank to accommodate any seismic force.

That latter argument, by the way, is the position and view of the California Public Utilities Commission. The Department of



Transportation's Materials Transportation Board, however, rejected such arguments by commenting: "The Materials Transportation Board believes that the consequences of a very severe earthquake are so significant that it is not in the public interest to permit construction of an LNG storage tank in these areas. The MTB believes that because LNG storage tanks have not experienced very severe earthquakes there has been no substantiation of arguments by commenters that such earthquake forces can be handled by appropriate design." While it is clear, by the present seismic record, that the LNG facility at Point Conception would probably not be permitted under federal regulations, it is equally clear that, unless circumstances intervene, the project is not subject to federal regulation. One might wonder, however, upon what evidence and how it came about that California's Public Utilities Commission adopted a standard less rigorous for seismic safety than did the federal government.

Third, given that Point Conception is near Vandenberg Air Force Base, which is used for missile launchings in the Pacific missile range, are there any special concerns that debris from an aborted missile launch could impact the LNG facility? I'm kind of glad I asked that question, I will answer it. On August 28th of last year, the United States Air Force filed a petition with the Federal Energy Regulatory Commission to intervene in its proceedings concerning the LNG facility at Point Conception. In its petition, the Air Force stated that the LNG terminal would be situated about six miles below the flight path of various rocket launchings, that it would be within the impact debris footprint of space shuttle launches planned for Vandenberg, and that there was a real possibility that such debris would fall on board approaching tankers or on the terminal itself, all facilities which were described as containing inherently volatile and dangerous property.

Immediately, as a result of activities, the Secretary of the Air Force withdrew the petition based on the LNG sponsor's agreement to hold harmless the Air Force in the event of any disaster. Now, I ask you, how is it that the willingness of WLNG to hold harmless the Air Force for any damage to life and property makes a contribution to public health and safety? It is, to say the least, rather obscure.

Fourth, have the natural gas utilities taken all steps to conserve and use more efficiently California's own natural gas supplies and to turn to renewable energy sources? The answer, unfortunately, is no. It is clear that with prudent and responsible management, forecasted future demand for natural gas estimates could probably be reduced. Only recently, Southern California Gas filed ob-

jections to an order from the PUC establishing conservation and solar goals. I think it is not unreasonable to ask why California's natural gas utilities are unwilling or reluctant to pursue conservation and renewable energy sources with the same vigor and enthusiasm as electric utilities, while at the same time pursuing a program which would increase California's dependence on a supply source and technology which are unreliable, costly, risky, and foreign?

Fifth, under all the circumstances, is the investment commitment to the Point Conception project prudent within the meaning of the Public Utility Commission's policy of disallowing imprudent investments? The answer would seem to be no. In October of this year, for example, the PUC reduced PG&E's gas cost balancing account by almost \$14,000,000 when it found that the utility had been "imprudent in the operation of its gas system in regard to purchases of Canadian gas and reduced purchases of less expensive California gas." The Public Utilities Commission said: "Our basic concern is with PG&E's lack of response to the Canadian price increase, that is, the \$4.47. There was no recognition that national energy policy supported the reduction of purchases to the level needed immediately to prevent a severe adverse impact on the public health, safety, or welfare. The last increment of Canadian supply was plainly unnecessary for planning purposes except to provide additional service to priority five, that is utility boilers, thereby displacing less expensive fuel oil on a BTU equivalent basis with additional carrying costs for oil storage." The PUC went on to paraphrase the eloquent electric conservation message offered by PG&E. The message is, what's the point of turning off the juice if PG&E won't turn back the tankers? My point is this, if it is imprudent to import pipeline gas which is more expensive and available than domestic, is it not equally imprudent to import liquefied gas which will be more expensive than either domestic or Canadian and Mexican supplies?

Sixth, and finally, why is all this happening? The question is difficult to answer. My guess is that the utilities believe that by joining California's economy to a capital-intensive and expensive resource they could possibly enhance their profit position as a result of their rate of return guaranteed, rather than if they pursued less expensive and available alternatives. I hope there is another explanation than that.

As to the importation business, my guess is that labor and com-

munity leaders, as well as public officials, were panicked by statements by project sponsors only three years ago that "unless California permitted LNG by the winter of 1980 and 1981 there would be an energy depression which would result in increased unemployment of fifteen percent, forcing 700,000 presently employed persons out of work in Southern California alone." Mr. Joseph Wrench, President of Pacific Lighting, of which Southern California Gas Company is a subsidiary, made that prediction.

I leave it to representatives of the industry here today to explain what went wrong with those estimates, and I submit to you that California should now abandon this effort to feed caviar to chickens and get on with the business of more suitably meeting California's future energy requirements.

*Moderator:* I would now like to introduce the panelists for the afternoon session. To my immediate left is Mr. Marc McGinnes of Santa Barbara.

To his immediate left is Mr. John Geesman, who is the Executive Director of the California Energy Commission.

On my far right is Mr. Thomas Clarke, whom we introduced this morning as Assistant General Counsel for Pacific Lighting Corporation.

To his immediate left is Mr. Peter Jonker, Manager of Governmental and Public Affairs for WLNG Terminal Associates.

To his immediate left and my immediate right is Mr. Charles E. Greenberg, who is a partner in Ball, Hunt, Hart, Brown & Baerwitz of Long Beach.

I'd like to turn to our topic today. I think in all fairness we might allow just a few minutes for some discussion of the remarks which were made in the address, and so I will ask if anyone wants to comment briefly, because I want to turn to the role of the attorneys. Would anyone like to comment briefly on the remarks which were made?

*Clarke:* Yes, I'd like to make some comments, not surprisingly, I'm sure. Mr. Warren is an eloquent speaker, a very gifted person evidently, but the Federal Power Commission and the FERC, which made the decision on each of the issues Mr. Warren enumerated, heard all those arguments and rejected each and every one of them for very good reasons. It's just astonishing to me that with all that eloquence opponents were unable to even convince so much as one of five commissioners that those were considerations that merited the dire consequences that he addressed to this group today.

The same applies to the California Commission, which looked

at each one of those issues extensively. I wouldn't want this group to think that this has all been done in a vacuum, that somehow these are being discovered for the first time. We've litigated these issues. We are continuing to litigate the seismic issue. Hearings will be held here in California, and I think on the federal level as well, as to the importance of the seismic data.

Also, the USGS survey that was referred to by Mr. Warren will be the subject, I believe, of some inquiries at the federal level, which has been directed by the courts to consider that as an element. We have marshaled on our side, I think, some of the finest experts in the world in the seismic area. We have Dr. Nathan Newmark, who is one of the world's foremost seismic engineers. We have the expertise of Dames & Moore, of Fluor, and many of the other very renowned engineering companies in the country, and it is their opinion, as has been filed with the PUC most recently and with the federal government, that we can operate an LNG terminal safely and efficiently at Point Conception. That's the state of the record. That is the determination that has been made up to this point by the federal government and by the state government. Nothing yet has overturned that. I just want to make that statement perfectly clear right now; that is the state of the record, and those arguments have all been made and rejected. Thank you.

*Greenberg:* I guess I'm the only one whom you've heard today who doesn't have much of a stake in the LNG terminal. I do represent the Hollister Ranch, just below the LNG facility, but I am involved with their problems with the Coastal Commission on public access, not this situation. Unlike Mr. Warren, who is a consultant for the Bixby Ranch, just to the north of us, on this particular problem, as I understand it, I think I can speak about it objectively, and I don't want to talk about whether LNG is good or bad. I want to talk about the impact of a speech like Mr. Warren's so that you can understand why, through the decade of the Seventies, we had so much trouble in obtaining a permitting tract of a project of any kind through California's and the federal government's environmental regulatory schemes. That was a powerful speech, albeit, as I think the LNG fellow said, everyone of those arguments has been heard ad nauseum by everybody, probably since 1973 or whenever they started this permitting tract. You haven't heard them, and they must have impressed the hell out of you. Whether they're true or not, I'm not going to comment, but

everytime the LNG spokesmen who have the set of mind that we had in the 1970's make speeches like that, then the LNG project correctly or incorrectly starts off with two strikes against it in the minds of those who are listening to it.

Now, I can't comment on Mr. Warren with respect to his position on LNG. I can vividly remember his position with respect to the Sohio project, because I represented Sohio. There, all we heard from Mr. Warren for years was the skillful kind of blending of economics of the oil industry, which I knew were nutty, because I knew the economics of the oil industry. I don't mean nutty in the sense of being crazy. I mean they were seen through dark glasses. Combined with, as he did here, throwing in little phrases like a cupful of LNG blowing up a switch gear and a little aside here of a cartel of gas exploiting nations, all that kind of information was readily transferred from the project that I worked on and suffered from, even got the bald spot on my head from, the Sohio project.

The final comment with respect to Sohio, very similar to what was said here about LNG by Mr. Warren, was why should California help solve a marketing problem for an English oil company? That was his basic position. Well, the other people who weren't happy with the Sohio project, Tom Quinn, Mary Nichols, Rich Mullin and all those state people, even the Governor, are now scurrying around desperately trying to find someone to build us a pipeline to take oil from California, heavy oil that we're now developing in the Bakersfield area, and other surplus oil that we have here in California, to a market. Because, as long as we don't have a pipeline, there is a cork in the bottle, and we can't take that oil to market.

That same sort of very skillful blending was what happened with Sohio. I can tell you what was fact and what was fantasy; I can also tell you how LNG has given me a sort of *deja vu*, especially as I listened to this speech by Mr. Warren. I do think that he is the most articulate man I've ever heard, but with all due respect, I believe he is the voice of the Seventies; he is the voice of a permitting net that has got us into some of the problems we were talking about today and which I hope we can address further as the afternoon goes on.

*Geesman:* I guess, in terms of my response, I need to explain a little bit about my agency. We were set up by legislation, authored by then Assemblyman Charles Warren, in the early 1970's to attempt to apply some principles of strategic planning to the electrical sector. It was thought that since utilities are not competitive businesses, some of the sophisticated forecasting tools

and strategic planning techniques utilized in the competitive market sector should be made to apply to the utilities. The principal concern on the part of the Legislature at the time was the proliferation of nuclear power plants. Mr. Warren, along with Senator Alfred Alquist, authored legislation that set up, on a state basis, something of an energy mobilization board, where a local permit system would be eliminated; the State would come in and make a permit decision based on state-wide interests.

We were supposed to conduct an independent assessment of demand growth so that we would not be reliant exclusively on utility data. We were supposed to assess, on a probability basis, technological risks, safety risks, and the availability of different alternative sources of electrical supply. We were supposed, and this was embedded in our statutory mandate, to place a supply preference on energy conservation. Even in the early Seventies, the Legislature felt that the key to California's energy future would lie in improving energy efficiency. Finally, we were supposed to promote renewable sources of energy as preferred supply sources.

With respect to the decision-making that went on surrounding the natural gas sector, as distinct from the electrical sector, I have to say today that, as a state energy official, I'm somewhat ashamed to sit in front of you and profess to have any higher level of optimism or confidence than my colleague at the Public Utilities Commission, Mr. Wilson, expressed to you this morning about the clarity or soundness of California energy policy on natural gas at the time the LNG Terminal Act was adopted.

The situation in 1977, in the California Legislature relating to natural gas supplies, was radically different from anything that has existed since then. We were told that 700,000 people in Southern California would be thrown out of work if this project were not to move forward. We were told that would happen this winter, and I think that involved some mistakes or poor calculations as to when the project would actually become available. But the *fact* of the matter was that it was a crisis environment.

I think that the company may have protested a little too much this morning with respect to the political deal they were forced to swallow. I believe that at the time they felt they were getting more out of the deal by having a presumed fast-track siting process. The Legislature was willing to establish that solely because

they were told 700,000 people would be unemployed if they didn't establish such a fast-track.

Now, the need for the project was established in the legislation as a test of whether the gas would be available or necessary for high priority customers. The term "high priority" was not truly defined. In the PUC investigation of the project, there was some debate, although not a great deal, as to what "high priority" meant. The Energy Commission took the position that "high priority" meant residential and small business. The companies took the position, as did the PUC ultimately, that "high priority" meant anything other than utility boilers, that is, residential, small business, commercial sector, and industrial customer.

The point was made throughout the PUC proceedings, and I believe it still stands true today, that natural gas is such a wonderful fuel in terms of the cleanliness of its combustion that you probably want just as much of it as you can burn no matter what the priority of the customer is.

Mr. Warren spoke quite eloquently, although I think he was paraphrasing Algerians about caviar for chickens. That is precisely what California utilities hopefully will be able to do in the future. That is precisely what California state policy would like to allow them to do in the future, in terms of burning natural gas in the electrical sector. When you burn natural gas in electrical power plants, you're not burning oil. Those of you, or those of us, who consider ourselves environmentalists should consider natural gas to be a preferable source for generating electricity through a combustion process. The air pollution impacts are quite noticeable in terms of the preference that should be attached to natural gas.

The issue this project faces right now is one of whether or not it is the best source of natural gas. I guess the closest thing I'd say in this round of remarks is that, in the electrical sector, we're required to place conservation as a priority and renewable energy sources, such as solar, as a priority. Also, I have to say that California's utilities, both gas and electrical, because Southern California Gas has been one of the leaders there as well, have adopted, under State prodding, the most aggressive conservation and solar programs in the nation. The cost comparison that I think the companies are going to have to make, to the satisfaction of the PUC, before final approval is issued by the state for the financing of the project, is whether the LNG project represents the most economic source of natural gas. I don't think that issue has been heard, at least at the state level. The state proceeding determined a need for the project. It was expressly deferred as to

whether the PUC would get into the tariff or bond guarantees or precisely whether the cost of the project was justified.

*Clarke:* Can I comment for a moment on that? I'd like to say that the aggressiveness with which we have pursued our conservation program, which was recognized just a few weeks ago by a presidential award to the Southern California Gas Company for its outstanding efforts in that regard, is a good example to the nation and the other distribution companies in the area of conservation.

On the solar hearings, we did file a petition for rehearing and minor modification. Mr. Warren made it sound as if we were against solar energy. Therein, if you take the time to read, you'll see that the PUC recognized the fact that the Southern California Gas Company had the most imaginative and aggressive presentation—all designed to make solar energy possible in California—and specifically said so. Thank you.

*Unidentified:* Mr. Greenberg characterizes Mr. Warren's voice as being one of the Seventies. To my mind, Mr. Warren's voice is a sensible one, and I hope it prevails in the Eighties and a good deal beyond.

The statements that were made by the utility companies in the 1970's about the need for this project were not sensible ones, and I think that we are still waiting for an answer to the question that Mr. Warren posed. Where did those figures come from, that we were going to have a fifty percent unemployment rate and 700,000 people out of jobs by today. Presumably, that has simply not occurred. Those figures were overblown. They lacked all sense. Furthermore, unfortunately, they were the basis upon which the sovereign State of California legislated, supposedly in the public interest, but, as we're seeing, there was very little public interest in this project.

*Clarke:* I'd like to comment on that, if I may. First of all, I'd like to discuss something about gas supply forecasts. Gas is not an off-the-shelf item. You don't just run out and say: "Gee, I want a couple of barrels of gas," and bring it in. It's very expensive to get gas to California when you're looking at an interstate pipeline, as we are through one of our own affiliates, Pacific Interstate, which is a member of the western leg consortium bringing gas from North Alaska.

We're not only looking at LNG, but we're also involved in other



areas like pipeline activities. Any area we look to is going to be expensive. Any new gas supply is going to be more expensive than any current gas supply, and the availability of that gas supply in the future, as gas supplies become more and more scarce and other people go out and compete for that gas supply, means a concomitant rise in price.

Mr. Warren pointed out that gas supply prices are being deregulated. That's true, they are. By 1985, large quantities of gas that are presently under government regulation will no longer be regulated. Therefore, if we're going to have energy to give many Southern Californian people jobs and to warm their homes after 1985 and into the future, we have to be out there in the marketplace today securing those supplies. Through those efforts, we can get gas here that might otherwise go to other areas of the country.

The second point I'd like to make is that the predictions that were made at that time were sensible in light of what we knew and what we could reasonably have expected. Last year we had the warmest winter in Southern California in forty years, and you don't plan a gas supply on the basis of the possibility of having the warmest winter in forty years for any future period of time. That's not the assumption. You look at a cold year, and you look at an average year, and then you make certain predictions as to what the reasonable expectations can be.

Also, I'd like to address the fact that recently there has been an upsurge in domestic production of natural gas and that it has increased availability. That's true, and part of it is a result of the NGPA. But it's not all the result of new drilling. A great deal of that gas is now being made available for the first time through what is known as 311b. In other words, gas that otherwise goes to the intrastate market is now being freed up, and it's going into the interstate market. That's creating a slight bubble, as we see it, in our gas supply projections.

However, we don't anticipate that to continue. We do expect that there will be a two or three year, at the outside, increase in availability. The statistics all say the same thing; we're running out of gas faster than we're producing it. We have a number of options that we must go after in order to be able to get the energy to maintain the lifestyle that we've become accustomed to.

One of those options, a very viable, sensible option, is LNG. We can make a prediction today that there could be massive unemployment five years from now, and it could be a very realistic prediction, based on some sound assumptions, and, yet, it might not reach, and hopefully would not reach, fruition. But we can't wait

until the last minute to build these supplies. You have to do it now, based on reasonable assumptions, and that's what we've done. Thank you.

*Moderator:* I think we've got to cut off this discussion and move on. We really need to get into the process of how you as attorneys and as people who participate in the process perceive the process as really working. I think that's something which is critical information to us. Whatever your role, whether it be Mr. Greenberg's, with his experience with Sohio, whether it be governmental relations, or whether it be representing a particular litigant, applicant, or intervenor, please help us a little bit in understanding how the process really works.

The first question I want to ask is a little bit broad. To what extent, as you approach the process, is it really agency based versus legislatively based? How do you know where the real power affecting your project is going to lie? Does it appear to be, for instance, a state agency process, and then you find out the process is really federally based? As a part of that, what kind of inter-agency rivalry or noncooperation do you encounter in the process? I'm going to direct that to Mr. Greenberg first because his experience with Sohio was a little bit different than we've heard so far.

*Greenberg:* I think maybe, if you're law students, it might be helpful to take that question and transpose it into the situation of a client walking into your office with a major industrial energy project. What is the first thing you do? You want to find the answers to the kinds of questions that were just posed to the client who doesn't have them. You don't know them either.

So what you do is go to the codes and do massive research on the permitting net that is going to be required for the particular project. Your client is very concerned about time frames. He always believes that, all evidence to the contrary with other projects, certainly a year or eighteen months ought to be sufficient for his wonderful project. He's very dubious about these time frames that you're telling him he's going to face. Then you take all of this material and try to put it together into a critical path for the project. Soon thereafter, you find that, inevitably, the critical path will not close, because when those laws were put together in the Seventies they were not put together with the concept of procedurally taking a project from beginning to end to

reach a decision. Instead, although the Seventies was the great master plan decade, when we master planned everything, we didn't master plan our legislative scheme and our permitting schemes. We did it very eclectically. We just threw one layer of regulation on top of another. Thus, it is usually physically impossible, under existing laws, for a major energy oriented project to get from the beginning to the end of the process.

While establishing that, you've gone through a frustrating period, but you've also done this: you've enabled yourself to give the answers to the moderator's questions because you know where the gaps are, and you know where you're going to need A, B, and C before you can get to D, but there's another law that says you've got to have D before you can get B. That's the kind of problem that you run into in these permitting nets.

Generally, you start with the agencies. Even problems like that can be worked out with the agencies, if the agencies have the will to work them out. Additionally, I would say that, at the start of every industrial project I've been associated with, you hope to get through the thing without having to touch the legislature. You hope that by working with all of the agencies you can come through that process. Although we're talking about super projects here, like LNG, Sohio, and so forth, there are industrial projects that manage that task.

You only end up going to the legislature when you're panicked, when you've tried your best and you can't work it out within the agency level. Generally, this is because there are conflicting single purpose agencies looking at the process from their own points of view, which, very legitimately, have different, overlapping, and contradictory policy objectives they've got to face. The big policy objective in LNG is remote siting, which a lot of agencies would want under their policy, versus a very sure Coastal Commission policy of putting LNG in Los Angeles Harbor because it's got all the infra structure, and you're not going to screw up a remote area. Well, how do you resolve something like that?

At that point, if you are really stuck, you try to go to the legislature, and I think that happened with LNG. This morning I got the feeling that 1977 was the beginning of the LNG world. As I recall, in 1977, and all I know is what I read in the newspapers about this thing, it seemed to most people that it was the end of the world in 1977. They'd already been frustrated by the agency process, and that's why they were going to the Legislature.

The second part of the question was: do you have problems with interagency rivalry? Well, of course you do because the people who administer agencies are human beings. Nevertheless, I

do want to deliver an affirmative message. I think that our government apparatus, at least in California, has learned from the problems it had with Dow, Sohio, and a dozen other projects. There is a very, very conscientious effort going on by the government to attempt to set up means for dealing with interagency problems. Among these means are: joint agency task forces; an expanded role for the Governor's Office of Planning and Research to mediate, knock heads together, and attempt to procedurally solve these kinds of problems; and other techniques that California is trying to use to deal with the situation.

I think there has been a good deal of success in dealing with the situation. Unfortunately, as was pointed out this morning, no major industrial project has ever gotten to the end of the line. In California, since this environmental decade of the Seventies started, we really don't know whether that effort will culminate in ultimate success, but I have high hopes it will. I think the new awareness in state government of the procedural problems, is extremely helpful.

*Geesman:* I'd like to second those remarks pretty strongly, in terms of the sequence of events. This LNG project is probably a pretty good case study of that. You don't go into the legislature unless you're in a panic situation.

In defense of the companies on this project, my recollection is that they initiated contact with the Indonesians in 1970, and I believe it was prior to the original Arab oil embargo that they had their first contract put together. They had negotiated what they thought was a pretty sound contract under completely different world conditions. They got tied up in a siting maze when permitting agencies, at both the local and state levels, became aware of the potential safety hazards, and then the brakes were put on. As a consequence, the companies went to the Legislature. There is still a great deal of debate in Sacramento as to whether or not the 1977 figures or statistics were put forward in good faith or not. I don't think one needs to have a very firm attitude about that to move forward on this issue. The one thing I'd say is the same thing was going on at the federal level, because that was the very same period of time when the deregulation of natural gas debate was going on.

These applicants have wound through what, thus far, has been a land use decision. Since then, we've gone through two major oil

price shocks on a world basis. The energy policy context has changed entirely from what it was in the early Seventies when the initial parts of the project were put together. As a consequence, this is as good a case study as you can ask to see, in terms of the way in which government works or does not work on a major industrial project.

Looking at the electrical sector, on the other hand, it seems fairly clear that from the utilities' standpoint, their best interest has been served by forcing the state to make some fairly basic decisions. They came to state government several years ago after the first nuclear project had been denied by the Brown administration and said: "Tell us what you want us to build. We've got to build something. You indicate to us that you want us to build. You indicate what type of sites will be approved, then we can go forward." As a consequence, there's substantially less controversy in that sector than there is in LNG today.

*Greenberg:* I'm sorry. I think your comments are really very good, John, but what you might not understand, at least I wouldn't if I hadn't struggled with it for years with Sohio, is this problem of forecasting oil and gas supply and how it comes into the equation in any major energy project. When I first started in 1972, and I started because I had no input from this world before then, I began reading those oil and gas supply forecasts that the industry, government, and everybody else put out. You could see what was going to be happening in the next five years. Then I got to 1974 and found that every one of them was wrong; I explained it all on the basis of the oil boycott in 1973. Well, when I got to 1976 and found that every one we were doing in 1974 was wrong, I began to have a few doubts. As it turns out, every major effort at trying to estimate what future oil or gas supply is going to be a few years hence is dramatically wrong. I think the Iraqi-Iranian War is a good example of why. We live in a future shock world.

If you take a master plan syndrome for making these basic decisions, you say your first step is to figure out if the project is needed. To do that, you have to figure out what is going to be the supply of oil or gas. Inevitably, you're going to be wrong. The human mind can't conceive of what's going on out there in the world, and I would suspect that every projection we've got now is going to be wrong five years from now. So where do we go from there?

How do we put together a permitting net or a system for meeting the situation when you've got to try to do your best to predict these things, but you can't use them as solid building blocks upon which you can determine what's needed and what's not needed?

A utility always has to look at the worst case situation, because they've got to supply the product. They've always got to take a very conservative view as to what the supply of oil or gas is going to be, in this case, gas. Hopefully, we can ensure that people will never run out of their commodity, gas.

On the other hand, the regulator would look at it in a different way. He would look at the environmental and economic problems of bringing in more of this resource. He might even try to figure what the best situation might be in the supply market, so that, maybe, we won't need the project as much as the utility thinks we need it.

These are both legitimate points of view. It all depends on from what leg of the elephant you're looking at it. I would pose the question to anybody who would comment on it: "How are we going to make these decisions when, based on past experience in a future shock world, we can't get a real good idea of what the supply-demand situation is going to be in the future?"

*Moderator:* Interestingly enough, my last question was going to be: "What happens when no one really knows what's going to happen?"

*McGinnes:* My response would be that we start at the beginning with the first question. Where do we begin when it comes to the point where we are really throwing our hands up in the air? Well, we come again to where it all begins. As professionals and attorneys involved in the decisions that are going to be made in the future and in the face of uncertainty, I think we have an obligation to keep in mind that we are professionals. Even as we advise our clients, whose private interests are involved in these questions of public policy, we, as individual lawyers and professionals, always have the duty to promote that which serves the public interest and the public welfare.

The integrity of the process is what this case is about, partly. It's that part that interests me the most. My expertise is not technical. My clients have nothing to contribute to that part of this dispute. I represent native Americans whose relationship with the land is not as near real estate or resources as mere commodities. Theirs is a love relationship. Where does this fit in?

Well, that kind of a connection which can't be quantified is difficult to fit into our legal system. To the extent that it is, I think that our legal system is somewhat wanting. Our process must be

adequate for the participants of our whole society. So let's attack the problem within a policy framework. The California Environmental Quality Act speaks to that. To paraphrase, it is the duty of every citizen to contribute to the long term preservation and enhancement of the environment. That's a duty which native Americans feel is their spiritual obligation, and it's now our legal duty. The California Environmental Quality Act, as a matter of environmental policy, says so. It also says that the long preservation of the environment shall be the guiding criteria in public decisions.

Working within the policy framework throughout, we see that we have to balance those duties with the need to provide energy to maintain our accustomed lifestyle. What has happened in this case, what perked my interest from the beginning, even before my clients came to me, was that in this matter the balance was skewed from the beginning. It was fast-tracked. As we've heard in this morning's panel, and I won't reiterate what's been said, we all agree that that was not the way to approach it. Let's not forget that when we ask the questions we've asked here, where do we begin and where do we go? Let's not fast-track these decisions. Let's learn from this not to repeat the folly of trying to shorten the procedure so that a sensible balance can't be struck. Common sense should guide our way.

*Unidentified:* All I'd like to say about that is, if this is a fast-track, I'd hate to see a slow one.

*Moderator:* Well, there was a comment made this morning to the effect that there were desirable benefits to be gained from delay. Of course, there are serious costs to be suffered and to be paid in doing so. Let me ask this question. I'm not going to direct this to anyone because probably no one really wants to answer it, yet it's one which everyone does deal with. How effectively does a broad range of environmental data get into the process, and is the process adequate for generating it at the earliest possible moment so that it's balanced against the energy aspects of the question? Now, I put particular attention on a broad range of environmental data. I know you have to file environmental impact reports, but you've got a broad range in that.

*Unidentified:* I think those of us who are familiar with other projects which have been on the federal level since the early 1970's know that, at least at the FERC, each one of the applicants is required to file his own statement, and then the agency itself is also required, under law, to make an assessment on its own and to evaluate the statement that has been filed. There is a circulation of that document throughout other federal agencies which

are considered to have an interest in the proceeding. It's also circulated to everyone who was an intervenor in the proceeding. That's for at least a forty-five day period. Subsequent to that, the sponsor of the project ordinarily puts on its own witnesses. I think, at the federal level, we put on between fifteen and twenty environmental witnesses sponsoring a document, which must have been three or four volumes, most of them at least two and one-half feet deep and which was extensively cross-examined and evaluated before an administrative law judge.

The next step at the federal level is the drafting of the administrative law judge's opinions, briefs on exceptions after that is issued, and finally a decision by the agency itself, in which it extensively considers each of the environmental issues and disposes of them in a rather lengthy document. Finally, that too is ordinarily subject to review by the U.S. Court of Appeals for the District of Columbia Circuit, which reviews whether or not the legislative mandates have been complied with. We've been through that process and have very extensively demonstrated to the satisfaction of the agency involved that we're taking the utmost of care in carrying out the duties that we want to perform at the site, taking into consideration all of the environmental factors involved. The same conclusion was reached by the state after a state document was also filed and evaluated by its own staff.

I think through the process of the independent study, done by the state, the federal government, and the applicant, cross-examination of the witnesses, the submission of briefs and arguments on those issues, an opinion by an administrative law judge, and an opinion by both a federal and a state agency, are more or less the ways the environmental issues are truly integrated in the process right from the very beginning.

*Greenberg:* I hate to disagree with learned counsel, and I don't really disagree with him. That's how it worked in LNG, and I never thought of it before, but maybe that's one of the problems. What he showed was a very well developed, well articulated process. I think the process works in a much looser, sloppier, but better, way. This assumes, however, that you're not within the constraints of that kind of formalized, quasi-judicial approach to producing environmental data.

In the Sohio project, land use project, the cement project I just finished, and a few others, the way you work it is that you pro-



duce, as soon as possible under the California Environmental Quality Act or NEPA, a draft EIR. Recent rulings have required that, even in the predraft stage, if you know people who are interested and if you know governmental agencies which are interested, you must go to them at that very early stage so that they can help you draft the scope of your environmental document.

Furthermore, the project doesn't really stay static. While all this is going on, your engineers are working, you're talking to all the agencies, possible changes are being evaluated, and as you're producing this environmental document, all of that gets fed in. As the description of your project changes from time to time in its various stages, you run all those changes through all the groups which have shown interest in your project because, from an advocate's point of view on a project, you want to get the maximum public input you can at the earliest time so that the least amount of change will be required later and that, at least, some of the reasonable opponents will begin to feel it's their project. They usually design half the mitigating measures that are going to be used in it.

You then work with a joint task force of all the agencies. The Sohio project started the idea of having all the agencies that had to pass on the project, well, not all 732 of them, but those that were on the pipeline, you know, the twenty or thirty major agencies, actually work on the project of designing, scoping, and commenting on the environmental materials as you go. We found that to be extremely helpful. In fact, I'd say Sohio reminds me of another client of mine, a brain surgeon, who was describing to me an operation he recently completed that he thought was absolutely brilliant, but, unfortunately, the patient died on the table. I think some of the processes that were used in Sohio and used ever since by major energy projects that don't go through this quasi-judicial mode have resulted in a much better governmental understanding of the project.

One note of caution, however. As somebody mentioned this morning, everybody wants an energy project everywhere but on their own doorstep, and, in essence, that's the trouble with the LNG situation. I think nobody would mind LNG, but don't put it next to them. You're never going to get opponents like that to view your project with anything but disdain. In fact, it's interesting that on several projects some organizations, like the state Sierra Club or the Lung Association, all support the project after you've talked to them and mitigated it to their satisfaction. On the other hand, the local chapter of that same organization in the

area is vociferously opposed to it to the end and even files lawsuits.

That brings us to the final comment I'd like to make. No matter how early and well done the environmental study is for the project, it serves two functions. One is to inform everybody about it and make you go through the rigorous analysis of your own project so you'll correct environmental deficiencies. The other is to set the stage for bitter lawsuits. I don't think that has been touched on by the panel today, probably because LNG hasn't gone that far yet. Nevertheless, it's going to face several years (in the case of Sohio we figured five years) of litigation before it gets through with all this. LNG has been going since 1970. When they get their final permits, if they get their final permits, they'll have several years of litigation on top of that. The environmental laws are a wonderful arena for litigating because there are a million unsolved questions on what is illegal or legally adequate and what are legal procedures and what are not. Because so few major projects have gotten to that stage in our country, at least in California, those issues are all unresolved, and boy, I'd sure like to put my grandchildren through school by representing some clients who have to litigate them someday.

*Jonker:* I'd like to address that, if I may. I think one thing that is happening with the LNG case, which is significant, is the establishment of a seismic panel. This panel is composed of six well known technical experts who are looking at all the seismic evidence, and based on all of the evidence to date, they make a recommendation to the PUC. I think that ties in with what you said, Mr. Greenberg, because it will reduce the length of litigation, and I think, talking now with my engineer's hat on, that it is a good trend, a welcome trend.

Mr. Warren is eloquent and has a lot of very powerful qualifications. One thing he's not though, is a scientist. As an engineer, I was sitting here, and I was just flabbergasted by some of the incredible statements he made. They're absolutely factually incorrect. I have a list of them that I would like to go through, but we had agreed we would not discuss the merits, and I will not. If somebody would like to speak with me afterwards, I'd be glad to respond, but I have at least eighteen points where Mr. Warren was, from a technical and scientific viewpoint, absolutely incorrect, and that is a fact.

As an engineer, I would welcome the insertion of a body like the seismic panel in our case, and I think that we'll see more of that as we get into the tough decision areas. We've done a little bit of that in the air pollution area, where Congress wrote an incredibly detailed clean air act which no one really knows how to work with, even the agency involved. I think that a panel of experts is going to have to be installed in some air pollution cases as well, and, again, I think it's a good trend.

*Unidentified:* I'd be willing to go over my notes too, with anyone afterwards. I've got a lot of things that I have written down about what speakers have said.

Following up on what Mr. Greenberg said about the process, I would add to that one word, that in the environmental review process, we must be careful as we design our decision-making models, so that we don't take the shortcut that the Legislature decided to take in the case, which proved to be a mistake. Let's learn from that mistake. Let's not take those fast-track shortcuts.

*Moderator:* Okay, Mr. Liss said that he also had a view on it, I'd encourage him to participate in expressing that view, and I'm speaking to you now of the person who basically controls or guides the process along. How effective is the processing of the scientific data which is generated, and, particularly, are the attorneys who are managing the process capable of handling that voluminous technical data, including the five feet? Would you like to give your view, Mr. Liss, and then we can get back to our panel.

*Liss:* It's not so much a view, as just a concern, and I really would be interested in hearing the experiences of everyone else on the panel. I've been involved in the federal LNG proceedings for years. Especially for law students, it would be a funny sort of spectacle to see the adversary process at work with eminent experts on the stand. Sometimes you get the feeling that it doesn't fit. When you walk into a courtroom and you're litigating an auto accident case, it's a game, a very serious game, but it's a game. You will bring as many resources as you want to it. The other side will do the same. It's a weighing of the evidence. The judge will then decide which set of scales is lower. And later on, you may say, "Gee, well, we could have brought in some experts in ballistics projection of automobiles." The judge will say, "Well, why didn't you? That was your business. I didn't ask you to come in here." That's what the adversary process is all about, and, in that context, the process serves the community.

However, in the context of the regulatory process, the administrative law judges, who make the decisions, are supposed to make

them, not on the basis of who put on a better or more voluminous case, but based on what is in the public interest—that is their mandate. I have no doubt that is what they are trying to do in every case. But, you get a situation where, first of all, the kind of evidence involved is so complex and so difficult to digest that you wonder whether decision makers are really capable of it. Secondly, you get inequities in the adversary system that are inherent, which make it even tougher for a judge to find the truth. What happens in our case, for example, is that the people with the most resources file a huge stack of evidence, and then it's up to the other side to cross-examine the witnesses and to file whatever evidence they want to know. But what if the "other side" is in the Sierra Club. They're involved in much litigation, but they don't have the resources in every case to put on experts in opposition, and they don't. So they hire lawyers who in effect act as instant scientists trying to create a hole. Query whether they can really do that in an effective manner. Similarly, you've got parties who are in better shape than the Sierra Club, but who nevertheless don't have the resources to put on the volume of information that the gas company is able to produce. I'm not saying that from a provincial standpoint; my firm is involved in the other side of many cases too. We represent clients who have many more resources. But the problem with the adversary process in the agency decision-making context is that you usually have unbalanced records. Given the complexity of these decisions and that it takes lots of good lawyers and lots of money to translate evidence into something that a decision maker can understand in order to really make a reasoned decision, and given that in any case either one side or the other is going to have a large resources advantage, I wonder whether the decision makers have the expertise or have before them the type of evidence which would enable them to make an intelligent decision.

I'm really talking about two questions. One is the inequity in resources, and the second is, even if you had equal resources, can the decision maker understand the evidence anyway? Do they really understand this siting business? Do they really care? Do they have any incentive to get beneath it all and figure it out. It's a very strange problem. I don't have solutions, obviously; I just have a lot of reservations about the process. As Peter Jonker said, the panel solution may be a better approach in many cases,

but it really is a disturbing aspect of public interest decision-making in complex cases like this one.

*Baird:* I'd like to make a comment on that aspect. I agree that the best thing the PUC has done so far is to establish a panel, and it was one of the Coastal Commission's positions in the original decision which was rejected by the Public Utilities Commission.

*Moderator:* You're saying that it's kind of a learning response from what's gone on?

*Clarke:* I'd like to comment on that if I may. Perhaps it would be best to start out with the fact that my first position out of law school was with the Federal Power Commission in Washington, D.C.. I was there for three years, during which period I spent some time in the Office of the General Counsel. I then spent some time defending the Agency's decisions before the court. Afterwards, I was privileged to be an assistant to a commissioner and drafted opinions the last year I was there and was intimate with the decision-making process. I think I can vouch for the fact that the commission that sat at that time, and I believe the commission that sits today, at the federal level as well as at the state level, does struggle with very technical problems.

Most of the problems that it struggles with, however, are rather day to day and mundane. That is to say, it's fairly familiar with the way gas companies operate and what their problems are until it comes up against something of the nature that we have in the LNG case.

I think this is a unique situation. I wouldn't throw my hands up and say: "Gee, it's hopeless. The agencies simply don't know what they're doing." The agencies have large staffs, and they have a lot of resources at their disposal, and many of the people on those staffs are very competent. They do a very excellent job in raising issues. To the extent that the federal agency lacks a necessary expertise or technical ability in a particular area, they're free to call upon the expertise of other federal agencies. So, I think to overemphasize a lack of expertise on behalf of the Washington agencies would not be a good starting point. I'm not saying that's what Mr. Liss is trying to do here, but I think we should remember the resources of the federal government are very large. When they want to bring their resources to bear in reaching a determination or in deciding an issue on the merits, they have a lot going for them in being able to do that, probably a lot more going for them than even the applicants that normally appear before them.

Now, the PUC, under the LNG Terminal Act of 1977, has at its

disposal a budget which is in turn being charged to the applicants, so that we are, in effect, under the law, required to pick up incurred costs in certain areas of the processing of the application itself so that it doesn't unduly fall upon the agency. Therefore, this creates a resource available to it that it didn't have before. It also has the California Division of Mines that it has consulted with in the area of seismicity.

So, I wouldn't want to overemphasize the fact that the agency itself, simply because it doesn't have a full-time seismologist of the stature of a Dr. Newmark, is necessarily in the dark or doesn't know what the issues are or how to find their way to a proper conclusion.

The agency itself felt that it was necessary, perhaps for both sensibility, as well as political reasons, to establish a six man body of experts not employed by the state or the applicant, and who have no association with the site, and to ask them what they think about the presentation and what their opinion is as to the suitability of the site itself. I think this is an extreme situation and don't think a panel is necessary in every case.

*Moderator:* Mr. Geesman.

*Geesman:* I'm not certain that the LNG case is a very good example of the role, or desired role, of lawyers in the permitting process. Our agency has had similar types of cases in the sense that virtually all the permit filings that we've considered in our five years of existence have been cases of first impression. We've had nuclear cases, coal cases, geothermal cases, and some oil fired plant cases. We found, after some fairly negative experiences in the early years, it was quite productive to minimize the role of attorneys in the process. We've tried to keep the adjudicatory, adversarial type of proceedings to as small a number as possible on any given case and to only resort to it after extensive quasi-legislative hearings, where the technical staffs of the applicant, the agency, and members of the public get together and attempt to narrow down what disagreements they actually have. In our experience, the attorneys have gotten in the way of the decision maker's effort to ascertain reality, truth, or good public policy more often than they've facilitated it. In the LNG case, at least at the state level, the legislation created such a forced march on a fixed time frame that I'm not certain the PUC had any alternative

other than to conduct things in an extremely quasi-judicial manner.

I think we'll be missing some of the points that Mr. Warren raised at the beginning of the discussion unless we focus on the fact that the adversarial proceeding may very well have missed some of the major issues. Those issues will affect whether or not this project goes forward, should we rely on a country, such as Indonesia, for a major proportion of our natural gas supply. Arguably, that's the federal government's decision, and, arguably, they've already come to some conclusion on it. The reality is that the members of the PUC are human beings. They're going to have an opinion on that issue, and, consciously or subconsciously, that's going to enter into their ultimate decision. The cost of the project is probably another very good example of some of the failures of the adversarial approach. You've heard from attorneys this morning, estimates of 500 million to three billion dollars, as to what the cost of the facility would be. That's the cost as seen from the shoes of the applicant, the amount of capital that needs to be raised to actually build the project. From the standpoint of the decision maker, though, he or she has to take into consideration the full cost to the rate payers over the thirty year life period of the project. Our staff estimates that it will probably be about sixty billion dollars when you factor in fuel costs. The comparison point that I'll put forward, just for reference, because I'm not certain that I'd vouch for the figures, comes from the Lawrence Berkeley Laboratory. Their estimate is that conservation programs in the residential sector alone (they have no estimates for commercial or industrial customers) could supply ninety percent of the same volume of gas for fourteen billion dollars.

These are difficult issues to come to grips with in a strict evidentiary, adversarial type of proceeding. The reality is, public utility commissioners read the newspapers, and they form value judgments of their own. When they make a final decision on a project, a variety of things enter into it. From an attorney's standpoint, it is best if you can attempt to frame those issues early in the process and come to some agreement as to how those key issues are going to be resolved. It's really in the worst interest of your client, if you're not able to spot all the key issues and force the decision makers to come to some agreement on them.

*Greenberg:* That's a very basic and kind of profound question, and it will run through all your roles as lawyers, if you're in the energy field or land use field. One thing you must realize from the start: engineers and lawyers will never be friends, just like cattlemen and sheepmen. There is a basic, different frame of ref-

erence between them. An engineer, because of all his training and temperament, is an absolutist. Something is right, as Pete Jonker said, or it's wrong. It is scientifically verifiable, or it is not. A lawyer, because of all his training, is a relativist. He has an existential view of the world. Nothing is black or white; there are only gray areas to him.

The differences in view create differences in perception, which will bother you as you're representing either side on a matter such as this. I don't know how many times an engineer for an energy company has told me I was nuts. They ask why I say do the widget *this* way when everybody knows that the way you do a widget is *that* way? It's been done that way for thirty years and that's the way to do it. I, as a lawyer, on the other hand, say: "Yes, but if we can only avoid doing it that way and arrange so you don't have to go through three permit agencies up here and avoid complications of somebody opposing us over here." Then you've got to plead with them to stretch and use what we lawyers would call his creativity and imagination to find an unorthodox way to do something that he knows darn well could be done best if you did it the orthodox way.

The engineer, on the other hand, is always furious at the lawyer for taking an orderly project and getting it out of sync because of some darn fool political or imaginary problem that may occur three years down the line.

Well, that kind of dichotomy also applies in how you absorb environmental information. I think I agree with all the speakers; it would be unfortunate for the lawyer to take a lead role in how that's done. But again, I want to caution you that in most instances, with most of these projects, the lead agency is not a public utility regulatory commission. In that case, it's a very different process. The agency probably does not have in-house expertise, so it goes out and hires either a large consulting outfit or a master consultant who knows where the best people in each area are. Those are the people who put together a draft EIR. Then, if anybody has any quarrel with what they've done, be it the opponents or the proponents of the project, they can bring their own scientists in. If it's a seismic problem, all the seismic people can argue about it. If it's a bird problem, all the bird people can argue about it. Actually, you come to a better result in what your final environmental documentation is going to look like, and I wonder if it



wouldn't be possible to engraft upon the PUC regulatory type approach how you prepare environmental assessment of a project.

*Moderator:* I hope your distinction between engineers and lawyers hasn't brought Mr. Jonker face to face with schizophrenia.

I have several more questions, but I think in all fairness that we ought to give some time to audience questions. So what I would like to do at this time is to spend maybe fifteen minutes or so on some audience questions. After that, I've asked Professor Lutz to play the role of God and try to bring order to this chaos, by making some summary remarks. I've suggested to him that, perhaps, the most germane thing is to say that the highest form of civilization is learning to live without answers. However, he is going to make some comments to try to tie this together in five or ten minutes, and then we'll adjourn. Let's open it up now for the questions that you'd like to ask.

*Audience:* Could the panel please comment on the proposed liability insurance, if any, for this project?

*Panel:* I'm not that familiar with all the intricacies of the liability insurance which we have taken out on the Point Conception Terminal itself. I know that certain arrangements with the railroad have been made. To my knowledge, there hasn't been any difficulty in acquiring a reasonable amount of insurance or requiring a reasonable rate for any foreseeable accidents that might occur at the site itself. I can't really give you any more particulars than that. That is something that primarily has been handled by another department.

*Knierim:* I can't answer your question directly, but I would like to make one point on insurance, which leads to risk, and that is there just can't be any risk in an LNG facility. The reason I know that is because the Coastal Commission is really working very hard to push down my client's throat, concerning Hollister Ranch, that the public should be allowed to wander over the beaches of the ranch right up next to the LNG plant. I know the Coastal Commission, a very conservative environmental body, would never allow this to happen if any of those people might be injured in a blowout.

Furthermore, I know the Coastal Commission realizes and is absolutely confident that none of those people will do what somebody tried to do about eight months ago by sabotaging the thing. Somebody tossed something into a tank and there was an explosion. That could be serious after the LNG plant is built, if it's built, so I know the Coastal Commission has no fear about that. I sleep much better at night knowing that there is such public con-

fidence in that body and in the lack of danger in an LNG plant. So, you really don't need any insurance.

*Audience:* How do the scientists and engineers calculate the probability of an explosion, and how does the application process deal with the information?

*Jonker:* Something will happen when you leave here and drive to your home in one times ten to the minus twelve. For instance, it's probably much more than that. That really doesn't mean anything to anyone. Does it mean you're going to get hit when you're on your way home, or does it mean you're not going to get hit? What does it mean? Agency personnel, as well as legislators, like to see it in terms they can understand. So, the question that is posed to people like ourselves, who are involved in trying to build a project that, admittedly, has a very minute amount of risk connected to it, like everything else does, is: What if? It's that type of question. What if this or what if that?

Now, what we get is a scenario that we have to account for, that really wouldn't happen in a billion years, even if you tried, but still, we have to protect against that. I think that's where we get into the area of overkill, and we're seeing a lot of that, not just with our project, but we're seeing it all over the place. Mind you, I'm not saying that we shouldn't be careful and should not look at the risk. To the contrary, we should look at everything that could go wrong, and we should guard against things that may go wrong. But let's not let this thing get out of hand, and let's not assume that we're going to have ten LNG tankers all colliding at the same point, all losing their load at once, and all vaporizing at once. We've had too many of these scares in the newspapers and everywhere else; they just are not realistic. Getting back to the seismic panel, even though they may be talking in terms of probability, ten to the minus whatever it may be, when it comes to responding to questions by the body here, the PUC, I think they will be able to put these things into perspective. I think that's what it's all about, and as far as what Mr. Greenberg said, he's absolutely right. Engineers and scientists do not understand lawyers because they don't think like lawyers, and vice-versa.

I would have responded to Mr. Nelson's question as to whether lawyers are capable of handling this with a resounding no. In fact, that's the reason I went to law school. I found myself at Union Oil working many, many hours trying to educate lawyers

on basic scientific facts that were known to any freshman in chemistry, physics, or whatever. Maybe I'm creating a lot of enemies around here, but, unfortunately, that's the way it is, and I think a lot more engineers and scientists should go to law school.

*Greenberg:* You're absolutely right. There's only one valid role for a lawyer in an environmental process that I can see. That role is to try to read those crazy statutes, keep his client on the straight and narrow, and keep the government agency on the straight and narrow, so that there's not a maze of procedures, and that's not as easy as it seems. One of the things that drives engineers nuts is that a lawyer probably cannot give a good answer to even a procedural question in a complex EIR case because there's no authority; it's brand new; it's first impression; every one of those issues are capable of going all the way to the Supreme Court. All you can do is take your best educated guess. That's the proper role for a lawyer in this process, rather than trying to play God in somebody else's field.

*Moderator:* And yet the adversarial role, as Mr. Liss says, forces the attorney to be the manager of examination and cross-examination of that scientific data, does it not?

*Panel:* I agree completely with the generalizations about lawyers' tendencies versus engineers' tendencies. On the other hand, if you're involved in a project permitting process and you're against the project, then obviously you're going to grab onto the uncertainty factor and try to trump it up as much as possible and impose upon an agency the obligation to be sure beyond a reasonable doubt that the thing is going to work.

On the other hand, if you're on the side in favor of the project, you're going to do your best to "pooh-pooh" any problems and say, "My goodness, there's always uncertainty." Those are the roles that the opposing lawyers are put in.

I remember very early on in this case, I made the mistake of asking one of the LNG's witnesses, "Isn't that possible?" The answer I got back was, "It's possible that the moon is made of green cheese, so you'll have to do a little better than that, if you're trying to get uncertainty." That's the role lawyers are put in. It depends on which side of the case you're on. You're either using uncertainty as an advantage, or you're trying to downplay it.

*Moderator:* Yes, sir?

*Audience:* Certain panelists have commented on how safe LNG is, yet just recently an LNG tanker truck in Spain exploded.

*Panel:* I'll take it very quickly. That truck in Spain was loaded

with LPG under pressure. When the tanks burst, the LPG shot out. That leads me into making a very important point.

The LNG that we store in our tanks and transfer in our ships is not under pressure. It is not LPG. It's chemically different. LNG is nothing more than natural gas in a different physical state. It's in a liquid state. Once it is revaporized, you cannot distinguish it from regular natural gas that comes out of the well. LNG does not burn by itself. It does not, in fact it cannot, burn or explode spontaneously as Mr. Warren has said that it does. It just doesn't do that. It can't. In order for natural gas to explode certain things have to happen. First, it has to be vaporized into natural gas. Then, it has to mix with air in the proper proportions. If it doesn't get enough air, it will be too rich to burn, just like the gasoline in your car. Then, it has to be cooped up in a confined space, and someone has to close the door on it and light a match. Yes, then it'll explode; no one denies that—just like natural gas in your stove or heater will do.

*Audience:* Wouldn't an ignition source be enough to cause an explosion or at least ignite a flame?

*Panel:* That's correct. If you had an ignition source and you had all that gas hanging over you, it would burn, but it would not explode. There is a very extensive research program that has been carried on for several years by the Navy and others at China Lake. They have tried to explode LNG clouds, but have been unable to.

Incidentally, that leads me to another point. Mr. Warren claims that LNG gas clouds are colorless. He obviously has never seen one. It's not colorless; you can see it. It's a whitish cloud. Not only that, he says that anything in its path is frozen and/or asphyxiated. That's not true. Our people *walk* through these LNG clouds taking measurements. They're not frozen to death. They're not asphyxiated. Those are facts I'm giving you.

In addition, the Coast Guard has looked at the possibility of spillage and ignition. They have looked at what they call the "maximum credible accident." The scenario is that a loaded LNG tanker runs into the dock and spills its load all at once. Now, when that happens, there is no way that you're *not* going to have some ignition source. I mean, you've got metal to metal contact. You're going to have an ignition source, and you're going to have a fire. This fire, however, is going to stay confined to the area of

the accident. You're not going to have vapor clouds drifting fifty miles over Santa Barbara and igniting everything in its path. The original vapor that comes from the LNG is going to find a lot of air around it, so it will burn at the edge and burn inward, but the gas is not going to be a fifty mile radius cloud burning back to the source, incinerating everything in its path. That is just not going to happen. No one denies that LNG is a combustible substance. What we do want to do is to put the dangers of LNG into perspective. It shouldn't be handled like water. It should be handled with respect.

As far as our technology and knowledge of the substance is concerned, we have worked with it for thirty years. Contrary to what Mr. Warren says, the technology is not unproved. We've had thousands of transoceanic voyages on LNG tankers without an incident that cost a life or any loss to public property. In Japan, we've got an LNG terminal with dozens of LNG tanks all bunched together, all close to other harbor operations. The Japanese respect LNG; they also know that if they handle it properly, it's not going to explode and injure them without any reason. It's just like the gasoline in your car. Each gallon of gasoline is equivalent to an explosive power of fourteen sticks of dynamite. Now you're sitting on a lot of sticks of dynamite when you drive your car home. Are you going to stop driving just because of that? You're not, and neither is anyone else. It just means that you're going to treat your gasoline with respect, the way it should be. That's all we're saying.

*Audience:* We've heard a lot about the permit web. I'd like to hear some discussion of innovations and perhaps more about the Energy Mobilization Board.

*Greenberg:* I don't know enough about the final evolution of the Energy Mobilization Board to be able to answer that part of your question. I remember in its early stages we suggested, at least as far as the Sohio project was concerned, something like that be done.

If you take the problem generically, I think a federal agency with the authority to preempt, which is basically what you're talking about, is an idea that most people are not willing to live with, and I don't think I'm willing to live with it. It's got problems in it. Furthermore, I don't think politically it is something that the fabric of our society will take. In Sohio's case, when we suggested that California law be preempted, one supporter we certainly expected was the Senator from Washington, because, if the Sohio project went through, you wouldn't need the pipeline in the northern part of the country. Since he didn't want that pipeline,

we felt he'd be with us. He was absolutely against us. The reason he was absolutely against us is that elected officials feels, this time California, next time it might be my state. Once we start preempting state rights, where do we go from there? I think there's a drag at that.

California has not had one of these major controversial projects go through its permit net since 1970. Sometimes there is a public quotient of not knowing exactly what's wrong with the decision-making process, but which knows the first task of a decision-making process is to make a decision, and that's what we seem to be unable to do. They're going to look for a man on a white horse to come make it for them.

I think you saw some of that in the Reagan election, where they're going back to simplistic solutions. Maybe they believe that trees cause a lot of air pollution; I don't know. But they're looking for a man who can get us out of this miasma where we can't make a decision. Sometime we're going to get that, and then we will get something like an energy mobilization board. I fear for the country when something like that happens. The second part of your question was what innovations are we trying that seem to offer some hope. I found in my coat pocket today, as I was coming down here, something that I wrote at a conference put on by Governor Brown two weeks ago, which 850 businesses attended. The little thing says, "Once is not enough, cogenerate."

Eight hundred and fifty businesses came to a cogeneration conference put on by the Governor of this state. I think most of them did not particularly like him and his officials. However, his officialdom has set up a joint task force with private industry to work on this energy idea of cogeneration and has overcome an amazing number of problems with the PUC, the Energy Commission, and three or four other state agencies. They're not quite there with the Air Boards; there's still a problem in this area. They can even work fairly well with Washington, except the Economic Regulatory Agency. They don't like cogeneration over there, because it will stop California from putting in atomic plants, which they say is the way we ought to go in our future.

Other than that, it's been a tremendous experience as I've watched it. I've seen one regulatory procedural problem and substantive problem after another erased by a state administration that was willing to do it and willing to organize to do it. Once a month we meet up there, and the Governor spends a lot of time

with it. That's why he gets a lot of attention, I guess. There are reports, and everybody discusses what the problems are and then solutions are suggested.

I think that's a marvelous decision-making mode, and I would like to see it used for more than cogeneration. I certainly would like to see it used for conservation and all the goodies, such as solar power and other things of that nature. But I'd also like to see some attempts in the tougher sectors. I think everyone will concede that no matter how we conserve, no matter how much solar power we use, there are going to be some unpleasant environmental and economic throwbacks from our attempts to meet this energy crisis. Anybody that doesn't think so is naive. We have to organize our priorities to figure out which of the indignities we're willing to suffer and which of the sources of energy we want to permit. I would hope that Governor Brown would keep talking about this new partnership between government and industry to attack and solve these problems. I think all of us are somewhat cynical about it, despite the fact I'm beginning to see some evidence that might really be there. I think that would be a tremendous step forward for California in getting over this problem. I could ramble on about fifteen others. That hit me first because I think it is the most dramatic thing that has happened in the last couple of years in the field in this state.

*Moderator:* I hate to cut off discussion at this point, but because of another time constraint that we have, we need to end questions at this point. Professor Lutz, I'd like to ask you to come up now, if you would, and spend five or ten minutes giving us a summary.

Let me say, before he does so, that I want to thank all of our panelists who have participated this afternoon, including Professor Lutz and Mr. Warren for their speeches, and for all these gentlemen, including Mr. Liss coming all the way from Washington to be with us. I just really appreciate all the input and the discussion which we've had and the gentlemanly fashion in which it's been conducted, and we very much appreciate that. Thank you for it, and I hope you'll join me in thanking them for it now.

*Lutz:* Thank you, Professor Nelson. I don't know whether to thank you for this dubious honor, but I do appreciate the offer of the position of "God" which you made earlier, and I also do not accept. But I will defer that. I do feel like a flower child though today, to some extent, and like a law student because I was sitting in the audience during most of the conference, and I learned a great deal. I was glad no one tried to employ the Socratic Method.

What have we learned? I was pretty active with my red and

blue pens as the discussion progressed, and I think in the morning session we talked about the energy site selection process. One can't be too amazed at the labyrinthine intricacies of that process. The process is, especially for industry, a very fragmented one, which is frequently interrupted, and often legally exposing.

I think the state agencies were agreeing to some extent with, or at least suggesting, that they too were somewhat disenchanted, maybe not with the work of their particular agency, but with the process that dovetailed their agencies with other agencies and levels of government. They often wondered what their role in the whole process was, and, to some extent, they emphasized that there is a permit net or web that sometimes defies clarification.

I think I also heard something about politics in the morning session. The discussion about fast-tracking the process by the 1977 LNG Siting Act was quite interesting. It seems that in order to avoid political problems or to avoid the extended public discussion which might have ensued with respect to site selection, there was initially some preference for fast-tracking legislation. However, since obtaining that legislation, there have been second considerations about it.

What I had hoped to hear in the morning session, which maybe I was too optimistic about, was what the preference of the people involved really is. In other words, what site selection regulatory process is really a preferred one. It seems that this is the greatest debate going on. Everyone has a different position about it, and each one can raise objections to the process from their perspective, but the solutions to this extremely fragmented process are not forthcoming.

Mr. Warren spoke to us about feeding caviar to chickens, and it was an extremely provocative talk. I was tempted to convert that statement into the question: Will California be able to get drunk on champagne when we can only afford beer? In fact, that's a very good issue to consider. The points that Mr. Warren made, with respect to need, approach, and reconsideration were very interesting, and I think the panel members in the afternoon session attempted to address a number of those comments, so I won't go into them.

The afternoon panel focused on decision-making and, in particular, the lawyer's role in that process. It was interesting to note that attorneys don't like legislators, or seemed not to, at least in



the early discussion. They said that they stay away from the legislative process for fear, although I'm not sure what of. The process is certainly political, and there are liabilities, I suppose, in getting involved in that process.

We also heard that applicants and even agencies have a rough time holding time still, and, in fact, that's what many of our laws require them to do today. In terms of forecasting need, supply, and price, agencies and applicants are forced into a mold of holding time still, using data available, and projecting that data to reach valuable forecasts. Yet the point was made, and I think a very good one, that this particular area of involvement is so volatile that it is almost impossible to talk of 1974 prices of, say, petroleum in 1976 or make projections about 1980 in 1974, based on 1973 prices. It's just a very different thing, and when you work out the equation and do planning on that basis, you suddenly find that your whole equation and all your alternative possibilities may actually crumble or fall on account of new data. The master plan syndrome that was discussed and the reliance on master planning, which is certainly a development of the 1970 legislation, extend the problem I just talked about—forecasting.

Another point made in the afternoon session had to do with the extent and integrity of the process. In other words, whether it's a process which is fair and able to quantify values in a risk or cost benefit analysis in such a way so as to take into consideration non-economic values. This is a very hard task for economists and lawmakers, but, nevertheless, one which is certainly increasingly entering our laws and which, I suspect, will have to be addressed with much more creative efforts than it has been so far. The question of how you value certain religious considerations are very difficult, particularly if you're talking about small populations who hold those religious concerns.

The other questions about the extent of the process refer to whether the process is too long, whether there should be a fast-tracking or a long-tracking of that process, whether, as time passes, evidence becomes stale and renders the decision-making inadequate, and whether or not the applicants in the procedure are often exhausted by the process. Certainly we have purported allegations of that very fact in the Sohio and Dow situations here in California and I also suppose in the LNG situation.

One additional point, I think, was made about the adversary process and whether or not it serves the decision-making process or clouds it. How do expert testimony and expert witnesses feed into that process and assist it, or how do they make it ponderous and less effective? The question of use of technological data in

such proceedings is one of the most difficult aspects our administrative agencies deal with today, and one which I think condemns lawyers to be technicians, as well as effective lawyers.

There was very much more said in the process of the discussions. I'm sure you took notes much better than I did. I think I will conclude with the fact that, as a law professor, I am somewhat prone to case studies and sort of attracted to them. This indeed is a case study of a very large magnitude and cast. It raises many of the important issues, not only of energy siting and energy policy in California, but also of our time constraints. Can we extract something from this discussion for the future? It is doubtless that energy is crucial to our economy, politics, security, and environment.

There is something unique about what was said today. It seemed that everyone had some questions about the process involved. Where is our energy policy? How do we get there? How do we find a way to deal with our energy future? As long as we depend on specific cases, such as the LNG case or the Sohio case, to define our policies, I think we are doomed to the sort of process and the problems that we heard today. I'm not sure as a law professor, lawyer, or citizen how we get beyond this project by project approach, but it seems to me we have to work much harder to clarify the future and what we want in terms of energy to be able to work better towards it.

I'd just like to conclude by saying that I am very honored to be a part of this very high powered panel that presented these discussions today. I am indebted, and I think we all are, to the fine students, particularly Rick Paisley and Liz Sanderson, who have put together this very fine program, and I'd like to give them a hand. Thank you.

