INCREASING COMPETITION IN THE OIL INDUSTRY: GOVERNMENT STANDARDS FOR GASOLINE

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The energy crisis has focused the public's attention on the performance of the American oil industry. Subject to particular scrutiny has been the aspect of oil industry performance which impinges most strongly on consumer consciousness: the rising price of gasoline. One much-discussed proposal to remedy the situation is the divestiture of crude oil production facilities from refining and retailing operations. Mr. Greening examines the economic theory underlying the divestiture proposals and concludes that in the light of present economic and geopolitical realities, divestiture would be unlikely to affect significantly the price of crude oil.

Mr. Greening finds, however, that an opportunity exists for enhancing oil industry competition by other means. He advocates a system of government quality standards for retail gasoline: a proposal designed to enable American gasoline consumers to purchase exactly the grade of gasoline required by their motor vehicles, and at a price forced to a competitive minimum by the free play of market forces. The proposal is aimed at comprehensive dissemination of objective, easily-understood information on gasoline quality, thus diminishing the major oil companies' market power built up through decades of image advertising.

Introduction

Legislative proposals to break up the major U.S. oil companies have been one of the strongest congressional responses[1] to the energy crisis, especially since the Arab oil embargo and OPEC price increases of 1973-74.[2] These recent proposals to

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1 More than 25 bills introduced in the 94th Congress were aimed at structural reorganization of the oil industry. *See* [94th Cong. 1975-76] 2 CONG. INDEX (CCH) 205.

2 *See* TIME, November 3, 1975, at 78; NEWSWEEK, October 27, 1975, at 81 (accounts of congressional reaction to oil crisis). *See generally* THE OIL CRISIS (R. Vernon ed. 1976).

restructure the world petroleum industry by splitting up the largest U.S.-based multinational oil corporations unite two traditional American attitudes towards big business. The first is "the belief that great industrial consolidations are inherently undesirable, regardless of the economic consequences."[3] The second is the belief that the economic results will be undesirable because market power, even when shared by a group of firms, leads to economic inefficiency.[4] Senator John Durkin of New Hampshire expressed these widely held sentiments when he stated to the Senate Subcommittee on Antitrust and Monopoly hearings on divestiture that

> [t]he issue is whether the federal government will have the guts to tell the oil companies what every citizen of New Hampshire knows every time his heating bill is delivered: that the oil companies are too big to be controlled by anyone, and they ought to be cut down to size.[5]

This combination of economic and political dissatisfaction with the oil industry was also apparent in the Senate Judiciary Committee's favorable report on the Petroleum Industry Competition Act of 1976.[6] This bill would have required the 18 largest oil companies to divest their crude oil production from their refining and marketing operations.[7] A majority of the Judiciary Committee concluded that the size and organization of oil companies adversely affect not only economic efficiency but the nature of American society as well, stating that ". . . in the end, the case for divestiture must rest on a value judgment about the kind of people we want to be and the kind of society we want to have."[8]

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3 United States v. Aluminum Co. of America, 148 F.2d 416, 428 (1945) (L. Hand, J.).

4 *See* J. BAIN, BARRIERS TO NEW COMPETITION (1956) (especially ch. 5: "Market Structure: Seller and Buyer Concentration in Individual Industries").

5 *The Petroleum Industry: Hearings on S. 2387 and Related Bills Before the Subcomm. on Antitrust and Monopoly of the Senate Comm. on the Judiciary,* 94th Cong., 2d Sess. 2168 (1976) (printed as 94th Cong., 1st Sess.) [hereinafter cited as *Hearings on S. 2387*].

6 PETROLEUM INDUSTRY COMPETITION ACT OF 1976: REPORT OF THE SENATE COMMITTEE ON THE JUDICIARY TO ACCOMPANY S. 2387, S. REP. NO. 1005, 94th Cong., 2d Sess. 17 (1976) [hereinafter cited as REPORT ON S. 2387].

7 The companies are Exxon, Texaco, Shell, Standard Oil of Indiana, Gulf, Mobil, Standard Oil of California, Getty, Atlantic-Richfield, Union, Sun, Phillips, Continental, Cities Service, Marathon, BP-Sohio, Amerada Hess, and Ashland. *Id.* 17.

8 *Id.* 150.

Obviously, divestiture would help accomplish the political goal of cutting the largest U.S. oil companies down to size. Forcing the 18 largest integrated firms to divest crude production from refining and marketing operations would reduce the oil companies' size and individual (if not collective) economic power. However, achieving the political goal of reducing corporate size and vertical integration may not necessarily assure the simultaneous achievement of the economic goal of maximizing competition.

Divestiture will tend to reduce high prices only if there is a connection between the vertical integration of the function to be divested and the present high prices. Those who propose vertical divestiture for economic reasons argue that such a connection does exist between the integration of crude production with refining and marketing operations. They argue that divestiture of production operations would increase competition in the domestic crude market by preventing market foreclosure[9] and in the international market by "removing the props which stabilize the OPEC cartel."[10]

This article contends that divestiture would have no effect upon the problem of high crude oil prices because vertical integration does not contribute to the existence of high price levels for crude. But another reform of the industry, the establishment of government standards for gasoline, *would* increase competition in the refining and marketing of gasoline.

The first section of this article argues that the OPEC countries do not require the help of integrated companies to maintain high prices. Divestiture therefore will not restrain the pricing power of the OPEC cartel. Since the OPEC governments unilaterally determine the world market price of crude oil, divestiture of U.S. companies would not lower that price, which is the most important component of the price of petroleum products. Even if divestiture improved competition in the domestic crude market by reducing market foreclosure, it

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9 *See* Measday, *The Case for Vertical Divestiture*, in CAPITALISM AND COMPETITION: OIL INDUSTRY DIVESTITURE AND THE PUBLIC INTEREST 16 (1976) (Proceedings of the Johns Hopkins University Conference on Divestiture).

10 *See* REPORT ON S. 2387, *supra* note 6, at 149.

would have no effect upon crude oil prices as long as the United States continues to import over 40 percent of its crude oil requirements.[11]

Section II of this article examines the competitive consequences of vertical integration in refining and marketing gasoline, the single most important petroleum product in the U.S. market.[12] The purpose of this section is to explain how major companies achieve brand identification, their basic strategy for influencing consumer demand. The section determines that vertical integration is essential to the brand identification of gasoline, and that brand identification inhibits competition in the gasoline market. But the analysis of Section II also suggests that divestiture of marketing operations from refining operations would simply redistribute the profits of existing brand identification from refiners to retailers, and not result in more competition or lower prices.

Section III urges the establishment of government standards for gasoline. Such a direct attack on brand identification would reduce the major anticompetitive effect of refining-marketing integration without the disruption that would accompany divestiture. Section III also examines the feasibility and costs of establishing such standards and describes oil industry reaction to previous government attempts to reduce the importance of brand identification. The Conclusion summarizes the article and compares the benefits of divestiture with those of establishing government standards for gasoline.

I. The Structure of the Crude Oil Market

The divestiture movement gained momentum from OPEC's success in raising crude oil prices because the integrated, multinational oil companies were widely suspected of being at least partly responsible for OPEC's success.[13] For much of the public

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11 *See* BP Statistical Review of the World Oil Industry 1975 at 8, 10 (1976).

12 Gasoline constitutes 45% of total American consumption of petroleum products. *Id.* 27.

13 *See, e.g., Top Oilmen Feel Crisis Real; Senators Dubious,* N.Y. Times, Jan. 22, 1974, § 1, at 1, col. 8; *Oil Profits Up 46% on 6% Volume Rise,* N.Y. Times, Jan. 23, 1974, § 1, at 1, col. 6. For a chronological summary of the oil crisis, *see* The Oil Crisis, *supra* note 2, at 283-84.

and for many legislators,[14] this suspicion was confirmed by the reports of spectacular profits in the oil industry for 1974.[15] Because it was crude prices which rose dramatically in 1973-74, most recent legislative divestiture proposals have focused on separating crude oil production from the refining and retailing functions of the largest U.S. oil companies.[16]

This section analyzes the central pro-divestiture arguments of these proposals. First, the claim is examined that the structure of the U.S. oil industry leads the companies to assist the OPEC countries in maintaining their cartel. Next, the mechanism by which the OPEC cartel is actually maintained is explored. Finally, this section analyzes whether the buyer's side of the market, regardless of industry structure, could significantly affect the world market price of crude oil.

A. *The Pro-Divestiture Argument*

The essence of the pro-divestiture argument[17] is that the OPEC cartel can survive only if its members reach output agreements (*i.e.*, production quotas) for each country. Since no explicit agreements are known to exist, critics contend that the oil companies must be helping OPEC informally restrict output to maintain high prices.[18] It is further alleged that the multinationals' informal collusion with OPEC is encouraged and facilitated by the structure of the oil industry, particularly by the vertical integration of major oil companies and their joint ventures in crude production.[19]

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14 *See generally* MULTINATIONAL OIL CORPORATIONS AND U.S. FOREIGN POLICY: REPORT BY THE SUBCOMM. ON MULTINATIONAL CORPORATIONS TO THE SENATE COMM. ON FOREIGN RELATIONS, 93d Cong., 2d Sess. (Comm. Print 1975); REPORT ON S. 2387, *supra* note 6.

15 The average ratio of net income to stockholders' equity for the 18 largest U.S. oil companies increased from 14 percent in 1973 to 17 percent in 1974, but dropped to 13 percent in 1975 as inventory profits fell. 67 NAT'L PETROLEUM NEWS FACTBOOK 1975, at 27-28; 68 NAT'L PETROLEUM NEWS FACTBOOK 1976, at 22-23.

16 The basic solution proposed by the amended bill is separation by the 18 major oil companies of their producing and refining-marketing operations. In addition, all pipelines would become common carriers owned and operated by companies which have no interest in the crude or products being transported through them.

17 For a detailed presentation of the pro-divestiture argument, *see* J. BLAIR, THE CONTROL OF OIL (1976).

18 *See* REPORT ON S. 2387, *supra* note 6, at 45.

19 Proponents of divestiture do not deny that OPEC countries collude in price;

However, neither prorationing nor any form of collusion on output is necessary for the successful operation of a cartel. Participants in a cartel can agree either on the quantity each will produce, in which case price is determined by the market, or on the price each will charge, in which case quantity is determined in the market.[20] The OPEC countries have realized this from the beginning of their cooperation in the late 1950's. This realization is illustrated by the following passage from a speech by Alirio Parra, Venezuelan delegate to the Third Arab Petroleum Congress in 1961:

> [d]iscounts are being given to meet new and lower prices or to penetrate saturated markets already held by rival companies. In the face of this scramble for world markets some sort of order can only be brought about by coordinating supplies. There are different approaches. One method involves the informal coordination of supplies in conjunction with a market policy. Another, the formal allocation of supplies among producing countries so as to avoid economic waste. Yet another, the actual setting of prices by reference to a given equalizing point. The declining influence of the majors seems to preclude any effective measures on their part alone. OPEC can ideally fill the role of coordinator.[21]

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rather they contend that such collusion is insufficient to maintain the present cartel price level without the companies' cooperation. In this view, OPEC's explicit collusion succeeds in maintaining monopoly prices only because the structure of the oil industry gives the major companies both the motive and the capability to aid OPEC by implicitly colluding on output.

One structural characteristic of the oil industry often mentioned in this regard is the companies' vertical integration of production and refining. This integration is alleged to give them an incentive to welcome OPEC price increases because "each OPEC price increase raises the value of their reserves outside the OPEC — especially in the United States." REPORT ON S. 2387, *supra* note 6, at 45.

A second characteristic is the "preferred access" to OPEC crude which the major companies are said to enjoy. This "preferred access" gives them a competitive advantage over other refiner-marketers, and "to maintain this favored status, the international companies help prorate production cutbacks among the OPEC members." *Id.* 43. Both "preferred access" and the ability to prorate supply are historical legacies of the majors' integration of overseas crude production, often through joint ventures. It is alleged that the system of interlocking joint ventures which still joins the former concessionaires enables the majors to control world output. *See generally* J. BLAIR, *supra* note 17.

20 F. SCHERER, INDUSTRIAL MARKET STRUCTURE AND ECONOMIC PERFORMANCE 158-64 (1973).

21 Alirio Parra, *Oil and Stability*, in 1 THIRD ARAB PETROLEUM CONGRESS: PAPERS (Sr. Parra's address is the 12th paper, all of which are paginated separately. The Congress took place Oct. 16-21, 1961).

The OPEC countries have chosen to collude on price and produce as much or as little oil as the world demands at the cartel price.[22] The OPEC cartel has been able to engage in effective price collusion because a few key countries (of which Saudi Arabia is the most important) are willing and able to act as residual suppliers, accepting the production cutbacks necessary to maintain cartel prices.[23] The small populations and enormous foreign exchange reserves of the key countries enable them to perform this function without sacrificing internal development, thus making the OPEC cartel unusually stable.[24] More precisely, OPEC's price and output behavior is an example of "dominant firm price leadership,"[25] with Saudi Arabia's dominance assured by its unique ability to expand or contract output in order to enforce its price preferences.

B. *The Ineffectiveness of Harder Bargaining: OPEC Has the Oil*

The strength of the OPEC cartel is such that divestiture of production will not produce the alleged economic benefit of lower prices through weakening OPEC. Divestiture proponents argue that such lower prices would result from the creation of more "aggressive" American buyers of crude who will succeed in prying "cheaters" away from the oil cartel. This is a most unlikely result for at least three reasons.

First, the argument that bargaining by the purchasers of oil will lower prices ignores the fact that the dominant countries in OPEC, the only producers capable of significant increases in output, have no economic incentive to cheat on the cartel price.

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22 *See* Kennedy, *An Economic Model of the World Oil Market*, 5 BELL J. ECON. & MGMT. SCI. 542 (1974); Yager & Steinberg, *Trends in the International Oil Market*, in HIGHER OIL PRICES AND THE WORLD ECONOMY: THE ADJUSTMENT PROBLEM 267-68 (Fred & Schultze eds. 1975); Stauffer, *Kangaroos and Wolves: Divestiture and Oil Prices*, in CAPITALISM AND COMPETITION: OIL INDUSTRY DIVESTITURE AND THE PUBLIC INTEREST 80-85 (1976) (Proceedings of the Johns Hopkins University Conference on Divestiture).

23 Stauffer considers the key countries to be Saudi Arabia, Iraq, and Kuwait. Stauffer, *supra* note 22, at 82. The Brookings study cites Saudi Arabia, Iran, and Iraq as the key countries. Yager & Steinberg, *supra* note 22, at 264. Saudi Arabia has 22 percent of the proven reserves in the non-communist world; Kuwait, 14 percent; Iran, 13 percent; Iraq 7 percent. *Worldwide Oil and Gas at a Glance*, OIL & GAS J., Dec. 27, 1976, at 104-05.

24 *See generally* Yager & Steinberg, *supra* note 22.

25 For an exposition of price leadership, *see* F. SCHERER, *supra* note 20.

Cartels deteriorate internally when members secretly undercut the cartel price, thereby increasing their own output and profits at the other cartel members' expense. Cartels may also collapse if outsiders with production costs below the cartel's increase their output and profits by undercutting the cartel price. In either case, the reaction of the offended cartel members soon pushes price down to the costs of the marginal producer — the highest cost producer who finds a market for his oil. Both situations require a price cutter to have a supply of oil large enough and cheap enough to take a significant market share away from those cartel members adhering to the cartel price. Unfortunately for the oil consuming countries, the producing countries which own such reserves have no incentive to cut price, since they already have more money than they can spend wisely or invest safely.[26]

Unless significant *low-cost* reserves are discovered elsewhere, the Middle East suppliers will be able to continue setting the world price of oil,[27] and their importance will grow as the world demand for oil increases.[28] Thus, it is not the bargaining skills but the exploration skills of the oil companies that could influence the price of oil.

Second, the suggestion that more "aggressive" bargaining on the part of crude oil purchasers will destroy the solidarity of the OPEC cartel belies the economic history of recent years. The OPEC countries' willingness to collude on price has already survived one severe short-run test — the 5.8 percent drop in consumption from 1973 to 1975.[29] This decline in demand

26 *See* note 23 *supra.*

27 For an explicit estimate of OPEC's long-run prospects, *see* Sakbani & Van Belle, *The Non-OPEC Oil Supply and Implications for OPEC's Control of the Market*, 2 J. ENERGY & DEV. 76 (1976). A valuable recent study of North Sea oil is A. Beale, Dynamics of Petroleum Industry Investment in the North Sea (June 1976) (Working Paper No. M.I.-EL-76-00 7WP in the M.I.T. World Oil Project). Beale estimates peak North Sea production at 6.58 ($7 world price) to 7.85 ($12 world price) million barrels per day. Even the higher figure is only half of Western Europe's 1973 imports (60% of 1975 imports), and will not be reached until 1986. *Id.* 65. No single "cost" for North Sea oil can be given *ex ante,* since cost depends on the quantity of oil produced per well. But these cost/volume estimates indicate that even at the present level of cartel price, Western Europe will depend on Middle East oil.

28 *Experts See New Energy Crisis and Again Ask Coherent Policies*, N.Y. Times, Mar. 7, 1977, at 39, col. 1 (news report of a three-day conference, "Toward a National Energy Policy," sponsored by Columbia Univ. Business School).

29 BP STATISTICAL REVIEW OF THE WORLD OIL INDUSTRY 1975, *supra* note 11, at 8, 27.

could have tempted some OPEC members to reduce their prices in an attempt to maintain output and revenue, but OPEC's price structure was maintained even though many members were producing at much less than their capacity.[30]

The most recent developments within the OPEC cartel also demonstrate that OPEC members will settle pricing disputes rather than let "aggressive buying" get out of hand and will probably also confirm Saudi Arabia's role as the world price leader. In December 1976 Saudia Arabia raised its price for benchmark crude by five percent, while eleven other OPEC members raised their prices by ten percent (with an additional five percent raise to follow in July).[31] Within days there developed a significant increase in demand by the major oil companies for the lower-priced Saudi oil.[32] Saudi Arabia's threat to expand production by about 3 million barrels per day has probably restrained actual price increases and will most likely result in a compromise among OPEC countries.

Third, and perhaps most important, the price of oil is determined more by politics than economics — the most important oil producing states are not simple profit maximizers. For example, the Saudis have explicitly stated that their attempts to moderate price increases are conditional on achievement of a satisfactory Middle East settlement.[33]

In conclusion, it appears that the buyer's side of the international crude oil market exerts very little influence on the level of

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30 *OPEC Oil Flow Passes Its 1973 Peak*, PETROLEUM INTELLIGENCE WEEKLY, Jan. 3, 1977, at 11.

31 *Saudis Open Up the Tap to Dampen OPEC Price Rise*, PETROLEUM INTELLIGENCE WEEKLY, Dec. 20, 1976, at 2.

32 *Iran and Kuwait Sales Hit Fast By Lower Saudi Prices*, PETROLEUM INTELLIGENCE WEEKLY, Jan. 10, 1977, at 1. The Saudis appear to be rationing this oil for political reasons. "In choosing the five new customers, the Saudi Government was obviously motivated by a desire to spread the lower-priced Saudi crude to major European-based companies which had not traditionally had much access to Saudi supplies, either as direct offtakers or third parties." *The OPEC Scene*, MIDDLE EAST ECON. SURVEY, Jan. 24, 1977, at 1.

33 Saudi Arabia's Foreign Minister recently made an explicit connection between the price of oil and Saudi Arabia's political goals: "I would like someone to show me the line which separates economics from politics. By limiting the increase in the price of oil we are contributing to the recovery of the western economy. In exchange we expect Europe and America to show more understanding for our views in the Palestinian conflict. . . ." 20 MIDDLE EAST ECON. SURVEY 2 (1977).

prices. No re-structuring of the American oil industry will alter this basic fact.

II. The Structure of the Gasoline Market

The controversy over structural reform of the "upstream" or producing sector of the oil industry has diverted attention from the "downstream" or refining-marketing sector. This is unfortunate because there are feasible reforms which could increase competition and reduce inefficiency in refining and marketing. The potential gains from even minor improvements in the retail gasoline market are small only in relation to the price of crude; from the consumer's point of view they could be quite significant. A decrease of one cent in the average price of gasoline would save consumers about one billion dollars per year.[34]

This section begins with a brief discussion of the theory of product differentiation and an examination of product differentiation in the retail gasoline market. This examination leads to an analysis of the influence of product differentiation on market structure in the gasoline industry. The section then reviews the economic costs of product differentiation in the gasoline market. Finally, two suggested remedies for eliminating these costs are compared.

A. *The Theory and Practice of Product Differentiation*

Product differentiation is the economist's term for a seller's attempts to distinguish his products from those of competing firms.[35] Firms distinguish their products through physical differences in the products and through differences in accompanying services (*e.g.*, terms of credit, convenient location, sales personnel, etc.).[36]

Physical product differentiation can be achieved either through minor physical differences or through a reputation for quality. Product differentiation through physical difference is

34 U.S. gasoline consumption in 1976 was 108 billion gallons. Wall St. J., Mar. 28, 1977, at 1, col. 6.

35 F. Scherer, *supra* note 20, at 324. The following discussion draws generously on Scherer's analysis.

36 *Id.*

feasible only when those differences are easily perceived by consumers (which is not, for example, the case with gasoline). If the quality claims are not specific, the company's strategy is called "image differentiation," and product differentiation consists of labelling the product with a company name which consumers associate with quality.

Advertising serves both to inform consumers of these product differences and to persuade consumers of the superiority of the advertiser's particular combination of physical product and service quality. Successful advertising creates brand identification, which is the association, by consumers, of certain quality attributes with the product's name. The effect of this product differentiation and brand identification on consumer welfare depends on the nature of consumers' demand for the differentiated product. In markets where consumers have informed and varied tastes, product differentiation and advertising maximize consumer welfare, as well as profits, by satisfying those tastes. If consumers can correctly evaluate both product quality and their own needs, advertising will not be misleading.

In some markets, however, consumers are unable to make informed decisions. This inability occurs when consumers either cannot judge product quality themselves or cannot tell what physical product qualities are necessary to satisfy their needs. In such markets product differentiation and advertising may maximize profits without improving consumer welfare. Advertising may mislead consumers about the importance of physical product differences or may create an impression of significant differences where none exists. As the president of Phillips Petroleum Co. testified before a congressional subcommittee, ". . . we have an additive which allows us to advertise. I don't know if it does anything for gasoline."[37] If consumers value physical product quality but are unable to judge it correctly, sellers may avoid price competition by advertising to create an image of quality. Once consumers accept this image, it becomes difficult for new sellers to enter the market without

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37 *FTC Industry Conference on Marketing of Automotive Gasoline: Hearings Before Subcomm. No. 4 on Distribution Problems of the House Select Comm. on Small Business*, 89th Cong., 1st Sess. 711 (1965) (statement of Stanley Learned, President of Phillips Petroleum Company) [hereinafter cited as *FTC Hearings*].

extensive advertising, even if their products are physically identical to those of established brands.

The retail gasoline market displays both the beneficial and the detrimental aspects of product differentiation and brand identification. Consumers benefit from retailers' differentiation of several parameters of service: the amount of personal attention from the attendant (from "full-service" to "self-service"), the convenience of location, the cleanliness of the facilities, and terms of credit. Consumers can easily judge quality differences in these services and are also the best judges of how much service they should buy.

But sellers of gasoline also attempt to differentiate the physical product quality of their gasoline, which consumers cannot easily evaluate themselves. The consequent brand identification, not based on significant physical product differences,[38] reduces consumer welfare by inhibiting price competition. The majors compete on the basis of image rather than price. To the extent that image differentiation succeeds, quality-conscious consumers are discouraged by the unfounded image from purchasing lower priced unbranded gasoline. Consequently the brand identification creates a barrier to entry,[39] making it more difficult for new marketers and refiners to enter the petroleum industry.

B. *Product Differentiation and Market Structure*

In order to understand the role product differentiation has played in developing the present structure of the retail gasoline market, one must consider two interacting strategic problems facing the major refiners. First, how can they best distinguish their gasoline in the eyes of consumers to avoid price competition? Second, how can they ensure that they, rather than gasoline retailers, reap the profits of brand identification?

1. The Reliance on Image Differentiation

A major function of gasoline advertising is to assure the consumer of the quality of the company's gasoline. Physical

38 *See* text accompanying notes 85-87 *infra.*
39 *See* text accompanying note 51 *infra.*

differences over competitors' products are sometimes asserted, but consumers are never provided the kind of precise technical information that one finds, for example, in ads for stereo equipment. The kind of advertising done by oil companies is consistent with the hypothesis that their goal is pure image differentiation. The predominance in oil company ad campaigns of television advertising (particularly ads on network television), a medium suited for projecting an image rather than detailed information on price and physical characteristics, is overwhelming and has increased since 1960.[40]

Data on oil company advertising in 1975 (the last year available) confirm the impression that the large oil companies predominantly advertise their image, rather than specific products or services. The Leading National Advertisers, Inc. annual publication, *Class/Brand*, listed oil company advertising by product ("gasoline and oil"), and also listed advertising for "Petroleum Companies, General Promotion."[41] The oil companies surveyed by *Class/Brand* spent 2.24 times as much on general promotion as on specific products in 1975. The disparity between product-specific advertising and general promotion is even more pronounced for some of the largest companies. For example, in 1975 Exxon spent a mere $1,224,000[42] on all product advertising, but $18,565,700[43] on general promotion. This appears to indicate pure image advertising, although these statistics may be skewed by the industry's recent political problems. Still, it is difficult to avoid concluding that petroleum company advertising is directed at creating an *image* of product and service quality through brand identification.

2. Image Differentiation vs. Service Differentiation

The major oil companies advertise service as well as physical product quality, but service differentiation is available to retailers as well as to integrated firms, while credible claims about product quality can be made only by manufacturers (in the

40 *Compare Industry Class Expenditures, 1960 vs. 1959*, 12 NATIONAL ADVERTISING INVESTMENTS, No. 2, at 10 (1960), *with Industry Class Expenditures, 1972 vs. 1971*, 24 NATIONAL ADVERTISING INVESTMENTS 1 (1972).

41 2 CLASS/BRAND YTD 379, 382 (1975).

42 *Id.* 379.

43 *Id.* 382.

absence of standards). Indeed, casual observation suggests that independent retailing operations already engage in real service differentiation, since their stations are often as large, well-equipped, clean, and conveniently located as those of the majors. As the president of Phillips Petroleum said at the 1965 FTC hearings,

> [i]n truth, service stations have been so homogenized that you could not tell which sells a major's brand product and which sells an independent's if all identification were removed. In many cases the independent refiner and the cut-rate marketer are operating from better facilities and better locations than the so-called major dealer, yet, generally speaking, they still expect to have a price advantage of 2 cents a gallon or more simply because they have not been classified as major company dealers.[44]

Furthermore, the absence of large-scale marketing chains in the industry indicates that service differentiation alone is insufficient to make a retailer competitive. If service differentiation were as important as perceived product quality, then there should be as many dominant (premium price, large market share) gasoline brands created by gasoline marketers as by refiner-marketers, all else being equal. The overwhelming association of branded gasolines with refiners demonstrates that perceived physical product quality is the dominant parameter of quality, or at least that service is relatively unimportant.[45] Another indication that service is a dispensable parameter of quality is the majors' growing use of self-service outlets.[46] On balance, it appears that current product differentiation in the U.S. oil industry depends upon heavy image advertising by the manufacturer, aimed at impressing consumers with physical product quality.[47]

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44 *FTC Hearings, supra* note 37, at 684.

45 *See Share of the Market*, 68 NAT'L PETROLEUM NEWS FACTBOOK 1976, at 89-95.

46 F. ALLVINE & J. PATTERSON, HIGHWAY ROBBERY: AN ANALYSIS OF THE GASOLINE CRISIS 227-47 (1974); 67 NAT'L PETROLEUM NEWS FACTBOOK 1975, at 40-43. Exxon, for example, permits customers to pump gasoline themselves at 50 percent of its stations. Wall St. J., Mar. 28, 1977, at 16, col. 2.

47 Michael Porter of the Harvard Business School has explained how the advertising strategy implemented by the manufacturer can also be designed to affect its relationship with retailers as well as consumers.

> . . . the manufacturer's prime strategy for differentiating his product is to

3. Vertical Integration in the Retail Gasoline Market

Having created a valuable asset in the image differentiation of their gasoline, refiners are then faced with the problem of collecting the profits from that image. Refiners' attempts to reap these profits have brought about several specific structural features of the gasoline market. These features include brand identification and exclusive dealing, which together comprise the instruments of vertical integration from refining into retailing.

Since successful image differentiation requires identifying the differentiated product with the heavily advertised image, each unit of the good sold must be "branded" with a symbol identifying the seller. Because gasoline is demanded and sold in bulk, the brand must be attached to the dispensing apparatus. Vertical integration is the least costly and most effective method a refiner can use to ensure that consumers will identify the physical product with the advertised image. This identification is accomplished by displaying the refiner's brand prominently and exclusively at the service station.[48]

> develop a strong brand image through advertising. If the manufacturer can develop a brand image, the retailer has very little power because (1) the retailer is little able to influence the buying decision of the consumer in the store; (2) a strong manufacturer's brand image creates consumer demand for the product, which assures profits to the retailer from stocking the product and at the same time denies him the credible bargaining counter of refusing to deal in the manufacturer's goods.

Porter, *Consumer Behavior, Retailer Power and Market Performance in Consumer Goods Industries*, 56 REV. OF ECON. & STATISTICS 423 (1974).

This analysis of the relationship between the manufacturer and the retailer may appear to be an academic abstraction, but oil company executives have made the same point. For example, in 1975 the head of Texaco's Strategic Planning Department told the Senate Subcommittee on Antitrust and Monopoly that

> . . . a major benefit to wholesalers and retailers of branded products is derived from the regional and national reputation for quality and service created by the integrated companies. That reputation, *partly developed on the basis of national advertising and promotions,* makes it easier for these small businessmen to sell their products because the consumer purchasing them relies on these standards and rightfully expects that the integrated companies will stand behind the quality of their products.

Hearings on S. 2387, supra note 5, pt. 1, at 413 (testimony of Annon M. Card, Senior Vice-President of Texaco Oil Co.) (emphasis added).

48 This point may be clarified by a comparison of the branding problems faced by Exxon and Procter & Gamble. The latter need not set up soap stores in order to differentiate Ivory from other soaps, because it is possible to put an identifying wrapper around each unit offered for sale. Thus Ivory soap can be sold along with tooth-

Furthermore, the refiner must control the service station to ensure that the station deals *only* in the refiner's gasoline. There are at least three reasons why successful branding requires exclusive dealing. First, there would be inefficiencies in a multi-brand or "split-pump" service station because each brand would require its own tanks, pumps, and signs. Second, a substantial number of consumers would be inclined to believe that all the pumps were connected to the same tank. This suspicion would no doubt be justified in some cases, to the chagrin of the supplying companies as well as the consumers.[49] Third, even the most gullible motorist might question the wisdom of paying more for one brand than for another when the pumps are side by side, eliminating his search cost. After all, the fact that one's "very friendly"[50] gasoline dealer offers both brands is an indication that the low-price brand's quality is not poor enough to drive away customers. This may well be the major refiner's most serious objection to split-pump operations.

In conclusion, the refiner's product differentiation effort is wasted unless accompanied by integration into retailing to obtain full control of outlets through ownership or exclusive franchise. This full control of outlets assures that the identity of the product can be maintained and price comparisons avoided.

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paste, food, or even other brands of soap in a retail outlet. If consumers seek out Ivory soap, retailers will be anxious to stock it and willing to pay Procter & Gamble a premium for Ivory. Therefore Procter & Gamble can collect the economic rents created by its image advertising without owning or controlling retail outlets. But the gasoline manufacturer finds that the smallest feasible "wrapper" for his product is the service station itself.

49 In their extensive study of the Los Angeles gasoline market, Cassady and Jones heard that such mixing often occurred, and was one reason why suppliers discouraged split-pump operations. The suppliers

> argued that split-pump operations encourage: (a) the use of company credit cards for the sale of non-company products, (b) mixing non-company (lower priced) gasoline with the company product and (c) passing off the product of another company on which a wider margin is earned for that of the company ("long hosing").

R. CASSADY & W. JONES, THE NATURE OF COMPETITION IN GASOLINE DISTRIBUTION AT THE RETAIL LEVEL 74 & n.18 (1951).

The desire for exclusive dealing was not confined to Los Angeles. " 'Split-pumps' were a bane to major suppliers in the 1930's and, once eliminated, have been excluded from the marketing scene in a variety of ways." NAT'L PETROLEUM NEWS, March 1972, at 40-41.

50 The advertising slogan of Sunoco Oil Company during the mid-1970's. *Contra*, "You can trust your car to the man who wears the star: the big, bright Texaco star."

C. *The Economic Costs of Product Differentiation in the Gasoline Market*

Having established the underlying logic of the present gasoline market structure of "image" product differentiation coupled with vertical integration into retail outlets, the analysis turns to the economic costs of that structure. These costs consist chiefly of (1) diminished competition in both retailing and refining attributable to the barriers to entry created by brand identification, and (2) allocative inefficiency in gasoline retailing.

1. Product Differentiation as a Barrier to Entry

The level of brand identification currently achieved by integrated firms raises a serious "barrier to entry" for new refiners and marketers. "Barrier to entry" is the economist's term for conditions which make it difficult for a company to enter an industry.[51] Such barriers, by reducing competition, indirectly impose a cost on consumers. The height of these entry barriers determines the " 'state of potential competition' from possible new sellers"[52] and can be "evaluated roughly by the advantages of established sellers in an industry over potential entrant sellers, these advantages being reflected in the extent to which established sellers can persistently raise their prices above a competitive level without attracting new firms to enter the industry."[53]

In the case of the gasoline industry, an important barrier to entry is the cost of extensive advertising required to assure consumers of the quality of a new brand of gasoline. Competition is inhibited because a new refiner must invest in image advertising and service stations as well as refineries in order to receive the same price as the differentiated brands. The advertising investment is particularly risky because advertising has no salvage value in the event of failure. A new entrant into the refining sector needs business skills and capital to succeed in

51 *See generally* J. BAIN, BARRIERS TO NEW COMPETITION (1956).
52 *Id.* 3.
53 *Id.*

two activities rather than one. Potential marketers face an even more serious entry barrier because of their inability, even though advertising, to make product quality claims as credible as those of integrated firms.

2. Allocative Inefficiencies Arising from Product Differentiation

In addition to indirectly raising prices by creating entry barriers to new competition, the majors' brand identification may directly increase consumer costs in two ways. First, consumers may be misled into buying better quality (*i.e.,* higher octane) gasoline than their cars require. Recent data from Maryland provide some evidence that this alleged cost is real. Since the beginning of an octane-posting and consumer education campaign in that state, premium gasoline sales dropped from 50 percent of the market to 20 percent.[54]

A second direct cost of product differentiation is high outlet density. If brand loyalty can be maintained only be ensuring outlet availability, some oil companies will maintain stations which are themselves unprofitable, but which are the necessary complements of profitable stations. To be more precise, oil companies may build "too many" gas stations for the same reason that airlines schedule "too many" flights.[55] If availability of service (in time for airplanes, in space for gas stations) is an important parameter of product quality, oligopolists may provide more service than would be demanded by a competitive market. The oil companies may find themselves enmeshed in a costly rivalry which benefits only those consumers who highly value the availability of brand outlets. If quality standards were implemented, however, quality conscious consumers would no longer feel obliged to seek out a particular brand, and therefore the companies' incentives to blanket a territory with stations would diminish.

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54 BUS. WEEK, May 31, 1976, at 21.

55 *See* SUBCOMM. ON ADMINISTRATIVE PRACTICE AND PROCEDURE OF THE SENATE COMM. ON THE JUDICIARY, 94TH CONG., 1ST SESS., REPORT ON CIVIL AERONAUTICS BOARD PRACTICE AND PROCEDURES (Comm. Print 1975).

E. *Eliminating the Costs of Product Differentiation: Divestiture vs. Quality Standards*

The structure of the gasoline market is dominated by two features, image differentiation (brand identification) of gasoline and the vertical integration of refining and retailing. Because vertical integration appears essential to creation of brand identification, it is hardly surprising that one set of proposals for eliminating the economic costs of brand identification would employ the indirect method of vertical divestiture. This article proposes an alternate and more direct attack on brand identification: quality standards for gasoline. Such standards would provide the gasoline consumer with pertinent quality information, thus reducing search costs and eliminating the need to rely on the refiners' bald assertions of quality.

Product standards are clearly preferable to vertical divestiture of marketing from refining, which would simply redistribute the profits from pre-existing brand identification. Vertical integration may have been necessary to create the existing quality images, but advertising alone may be sufficient to maintain those images. If the divested marketing operations of the major integrated oil companies retain ownership of the major brand names, they will be able to collect the profits from existing brand identification. Quality standards, however, will provide consumers with adequate information on physical product quality. As explained in the next section, this will promote price competition among existing refiners and marketers and increase competition from new entrants into refining and marketing.

III. Establishing Quality Standards for Gasoline

The most effective and inexpensive means of reducing the economic costs of image differentiation would be the establishment of quality standards for gasoline. Standards would reduce, perhaps even eliminate, specious physical product quality differentiation. This in turn would eliminate that part of refiners' ability to influence demand which arises from consumers' inability to determine product quality in gasoline.

Of course, this hypothesis about the effect of gasoline standards cannot be proved without enacting such standards. But a brief examination of the role of standards in consumers' purchasing decisions, of the current status of attempts to create standards, and of the oil industry's reaction to those attempts provides theoretical and empirical support for the hypothesis that standards would reduce image differentiation and increase competition.

A. *The Theory of Quality Standards*

Consumers of gasoline or any other product confront two problems in making an optimal purchase: obtaining information about the product, and then evaluating that information in relation to their personal needs.[56] The seller of gasoline (or of any other good for which these two tasks are difficult) will engage in image advertising to persuade the consumer that the seller has already performed both tasks for him. A government gasoline grading system, by providing accurate information in a form consumers can interpret, would diminish the effect of current image advertising and undermine the cumulative effect of years of image advertising of established brands.[57]

To be effective, government standards must solve both consumer choice problems mentioned above. The standards must both certify the quality and specify the performance characteristics of each grade of gasoline (information), and require car manufacturers to specify the grade required by their cars (interpretation). A quality standards program would require that each gasoline pump be labelled with the grade of gasoline it dispensed (certifying that the gasoline met the specification for that grade) and that each automobile be labelled with the grade it required. Government standards, therefore, should give consumers both precise information and a decisional rule for using that information.

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56 *See* Goldberg, *The Economics of Product Safety and Imperfect Information*, 5 BELL J. ECON. & MGMT. SCI. 683 (1974) (*see especially* 686-87). For a discussion of the costs of restricting product variety as opposed to the benefits of restricting irrational consumption, *see* Colantoni, Davis, & Swaminuthan, *Imperfect Consumers and Welfare Comparisons of Policies Concerning Information and Regulation*, 7 BELL J. ECON. & MGMT. SCI. 602 (1976).

57 D. HEMENWAY, INDUSTRYWIDE VOLUNTARY PRODUCTS STANDARDS 68 (1975).

In the short run, consumers would benefit from having objective information. They would no longer be willing to pay a premium for major brand gasoline, and they would no longer purchase gasoline of higher (or lower) quality than their cars require. Because standards would eliminate image advantages, they would place all refiners and retailers on equal footing with respect to physical product quality. Consumers should therefore benefit in the long run from increased competition in both refining and marketing.

B. *The Standards Proposal*

Although a standard fulfilling the theoretical requirements of an ideal system does not yet exist, its development is technically feasible. Two voluntary industry groups, the American Society for Testing and Materials (ASTM) and the Society of Automotive Engineers (SAE), have already proposed one such system.[58] While their joint proposal is not complete, it does suggest the kind of objective information which should be provided by a gasoline standards system. The SAE-ASTM plan would grade gasoline by four parameters: anti-knock performance, lead content, induction system cleanliness and driveability. Generally, anti-knock components (measured by the octane rating) induce efficient combustion, the lead content determines a gasoline's compatibility with emission control devices, cleanliness influences engine life, and driveability includes starting and stalling characteristics.[59] Information about these quality parameters would be conveyed by symbols mounted on each gas pump and on each automobile or listed in each owners manual; the SAE-ASTM symbol is shown in Figure 1.

The SAE-ASTM system satisfies both requirements of an effective standard by providing the relevant purchase information and a simple guide to using that information. To implement the SAE-ASTM proposal as a complete quality standard system, the government must establish a testing program to

58 *See* SAE Publication J-282, Automotive Gasoline Performance and Information System (1975); ASTM Publication D-439 (1975), *reprinted in Hearings on S. 2387, supra* note 5, at 437-49.

59 *Id.*

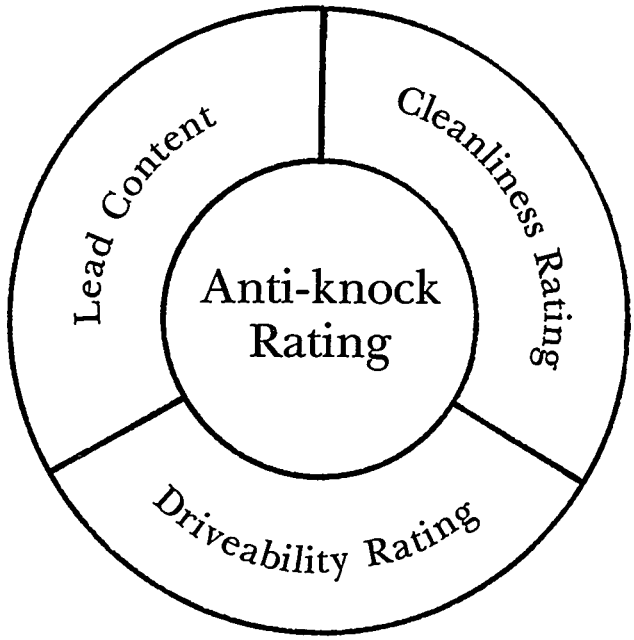

Figure 1: SAE-ASTM Proposed Grade Symbol[60]

assure consumers that gasoline labelled with a particular performance rating actually meets the specification for that rating. Since the Environmental Protection Agency already tests gasoline samples for lead content, it is the logical agency to assume the additional responsibility of certifying gasoline quality.[61]

The purpose of this article is to argue the merits of gasoline standards in general, not the superiority of any particular proposal. The SAE-ASTM system is discussed primarily as evi-

60 *Id.*

61 H.R. REP. No. 1615, 94th Cong., 2d Sess. 28-29 (1976). The EPA already has three specialists and a testing lab in each of ten regions to test lead content.

dence that the technical problems of establishing gasoline standards can be solved. The SAE-ASTM committees have completed specifications for lead content and anti-knock performance, but have not yet devised practical tests for cleanliness and driveability. Although standards for cleanliness and driveability are feasible,[62] work on their completion has virtually stopped because the SAE and ASTM see little likelihood of their system's being adopted in the face of opposition both from oil companies and, ironically, from some consumer advocates.[63] The opposition of some major refiner-marketers to the SAE-ASTM system and to other attempts to provide consumers with objective information on gasoline quality provides some insight into the oil industry's perception of the effect of standards on competition.

C. *Industry Reaction to Octane Posting and the SAE-ASTM Standards*

If standards would reduce image differentiation and the market power of established brands, then one would expect the major oil companies to oppose any attempt to establish such standards. On the other hand, marketers of gasoline should welcome standards because they would eliminate the integrated

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62 Both Mr. Charles Colyer of Standard Oil Co. of Indiana and Mr. Sydney Andrews, Director, Division of Standards, Florida Dep't of Agriculture, have worked on the ASTM committee and believe that the standards are feasible. Telephone conversations with the author (March 8, 1977).

63 In particular, Mr. Louis V. Lombardo, president of the Public Interest Campaign, feels that the SAE-ASTM anti-knock index is "a deceptive anti-knock index to stave off regulations which would require disclosure of octane and competition on octane quality." *Hearings on S. 3555 Before the Subcomm. on Antitrust and Monopoly of the Senate Comm. on the Judiciary*, 94th Cong., 2d Sess. 305 (1976). Such consumer suspicion of industry self-regulation has a long history, and is usually justified.

> The interest of the dealers, however, in any particular branch of trade or manufactures, is always in some respects different from, and even opposite to, that of the public. . . . The proposal of any new law or regulation of commerce which comes from this order, ought always to be listened to with great precaution, and ought never to be adopted till after having been long and carefully examined, not only with the most scrupulous, but with the most suspicious attention. It comes from an order of men, whose interest is never exactly the same with that of the public, who have generally an interest to deceive and even to oppress the public, and who accordingly have, upon many occasions, both deceived and oppressed it.

A. SMITH, THE WEALTH OF NATIONS, bk. I, ch. XI, 316-17 (London 1776). However, in this case, the conflicting interests of oil and auto companies serve to protect the public's interests.

firms' ability to differentiate the physical quality of gasoline, while leaving intact the possibility of service differentiation. Thus the independent marketers' competitive position would be improved. The oil industry could be expected similarly to oppose any other consumer information plans which would reduce product differentiation through image advertising.

The FTC initiated an attack on product differentiation in July, 1969, when it proposed a trade rule that would require *integrated* refining-marketing companies to post the research octane number of their gasoline on each pump.[64] Octane posting would provide all consumers with objective technical information about one parameter of quality. Those consumers who knew what octane their cars required could use that information instead of relying upon advertising claims to guide their purchases. The tendency of consumers to regard octane as the primary determinant of quality[65] and the similarity of octane ratings of major and private brands would lead to increased price competition.

The reaction of the oil companies to the FTC proposal was reported by the *National Petroleum News* in an article headlined "Octane Rule: Menace to Pricing?":

> Publicly, oil spokesmen argue that posting of octane ratings on gasoline pumps may only confuse motorists and that octane ratings are just one measure of gasoline quality.
>
> But marketers are worried about more than that. The rule . . . could have these effects: It would publicize the fact that octane ratings of branded and independent or private-brand fuels are frequently the same. In motorists' minds, this might mean that the gasolines are the same. Why, then, they might ask — to the embarrassment of major suppliers — a 2¢ or 3¢ or even 4¢-gal. difference in price?

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64 The text of the original proposed rule was published in 34 Fed. Reg. 12,449 (1969). This was approved on Dec. 30, 1970, to be effective Jan. 12, 1971. 36 Fed. Reg. 354-55 (1971). The FTC reopened the public record for further comment, and a slightly modified rule, effective Mar. 15, 1972, was promulgated. 16 C.F.R. § 422.1 (1976). The modification, however, was not insignificant. The word "research" defining the octane number was eliminated. There are two ways of computing octane numbers, commonly called the "research" and "motor" methods. The average difference between the two methods of computation is 8 points. The final FTC rule prescribed a formula of (R+M)/2. For a general discussion of the rule see *Octane Rule: Menace to Pricing*, NAT'L PETROLEUM NEWS, Feb. 1971, at 39.

65 *See Buying Gasoline: a low priced fuel that meets your engine's octane requirements is still all you need*, 33 CONSUMER REP. 524 (1968).

> Private branders would seem initially to be in an advantageous position, with motorists possibly flocking over to their stations for equivalent-octane gasoline at lower prices. But if branded dealers dropped their prices to compete, the advantage would be lost.
>
> Private branders might then lower their prices to maintain a 2¢ or 3¢-gal. differential. The net result would be lower prices all around and smaller realizations.[66]

Perhaps more significant than the fear of short run price warfare was the oil industry's perception of the FTC's proposed rule as an attack upon product differentiation. As a spokesman for Shell Oil Company asked during hearings on the proposal,

> Is the rule a measure to reduce consumer identification of performance satisfaction with a particular brand? If so, why? There is nothing undesirable about consumer identification of superior performance with a particular brand.[67]

In fact, there *is* something undesirable about consumer identification of superior performance with a particular brand, when that identification is produced by intensive image advertising rather than by technical information, automobile manufacturers' recommendations, or consumer testing. Image differentiation, even assuming that it gives major brand refiners an incentive to maintain high quality standards, does nothing to help the consumer choose the right gasoline for his car, and inhibits competition by making it more difficult for newcomers to enter either refining or marketing.

The FTC's proposal for octane posting has been stalled in the courts since its promulgation. The proposal prompted thirty-four companies and two refining associations to sue the FTC, claiming that the agency lacked authority to require octane posting.[68] But the National Oil Jobbers Council (NOJC), a

66 *Octane Rule: Menace to Pricing*, NAT'L PETROLEUM NEWS, Feb. 1971, at 39.

67 *FTC's Octane Rule: Why Marketers Fear Its Effects at the Pump*, NAT'L PETROLEUM NEWS, March 1971, at 18-19.

68 Nat'l Petroleum Refiners Ass'n v. FTC, 340 F. Supp. 1343 (D.D.C. 1972), *rev'd*, 482 F.2d 672 (D.C. Cir. 1973), *cert. denied*, 415 U.S. 951 (1974). On remand to the district court, the FTC was ordered to prepare an environmental impact statement on the proposed rule. That statement has been prepared but has not yet been approved by the Commission. Enforcement of the octane-posting rule has necessarily been delayed pending further court proceedings.

Congress attempted to cut short this legal dispute by giving the FTC statutory authority to require octane posting, and octane posting bills passed both the Senate and

wholesaler-retailer organization, was not asked to join the lawsuit. When questioned by *National Petroleum News,* the jobbers said that they would not have joined the suit even if asked, because that would offend the FTC, their champion against the predatory tactics of the refiners.[69] While that motive is possible, it is also true that the jobbers' competitive position would be improved if octane posting were instituted. Thus both favorable and unfavorable industry reactions to the FTC's octane-posting proposal indicate the industry's belief that providing objective quality information would reduce the importance of brand images.

Ironically it was the oil industry's dissatisfaction with octane posting that initiated the SAE-ASTM proposal, which would be likely to reduce brand identification even more than would octane posting because it includes more parameters of gasoline quality. Three months after the suit challenging the FTC's authority to require octane posting was filed, Frank Ikard, president of the American Petroleum Institute (API), proposed to the FTC that an inter-industry effort to formulate standards be initiated. The *National Petroleum News* suggested that this new approach, advocated by some companies from the beginning of the controversy, stemmed from the belief in some industry quarters that:

> — The commission will have its rule one way or another; therefore, the oil industry should try to influence the shape of the rule as much as possible.

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the House in 1976. H.R. 13000, 94th Cong., 2d Sess., 122 CONG. REC. H10,611 (daily ed. Sept. 20, 1976) (bill reported and referred to committee); S. 1508, 94th Cong., 2d Sess., 122 CONG. REC. S12,865 (daily ed. July 30, 1976) (bill passed). *See* H.R. REP. No. 1615, 94th Cong., 2d Sess. 27 (1976); S. REP. No. 1055, 94th Cong., 2d Sess. 6 (1976). Although these bills expired with the end of the 94th Congress, Senator McIntyre (D-N.H.) reintroduced the Senate bill as S. 18 in the 95th Congress. 123 CONG. REC. S124 (daily ed. Jan. 10, 1977).

Although the FEA has statutory authority to enforce octane posting, 10 CFR § 212.129 (1976), it apparently devotes no resources to enforcement.

> While the F.T.C. rule was undergoing judicial review, first the Cost of Living Council and, later, the Federal Energy Administration promulgated rules substantially identical to the F.T.C. rule . . . as adjuncts to the exercise of price control authority over gasoline on the theory that a reduction in the octane rating of gasoline without a corresponding reduction in price was tantamount to an increase in price for gasoline of constant octane rating. Unfortunately, the existing F.E.A. regulation is not being enforced by the agency.

H.R. REP. No. 1615, 94th Cong., 2d Sess. 19 (1976).

69 *Suit Tests FTC on Octane Rule,* NAT'L PETROLEUM NEWS, May 1971, at 29.

> — And/or, the public fuss generated by the octane-posting question impels the industry to accept the general idea from a public-relations standpoint.[70]

Industries faced with government regulation often attempt to influence or preempt that regulation, if possible by self-regulation.[71] But in this case, after members of the SAE, ASTM, and API formulated the four-parameter system described above,[72] the API withdrew its sponsorship because of the opposition of some API member companies.[73] Thus the four-parameter scheme is now a joint proposal of the SAE and ASTM, and is opposed by many (but not all) major refiners. For example, when the State of Florida attempted to adopt a modified SAE-ASTM plan in 1973 (with cleanliness and driveability parameters to be added as they were completed), Shell Oil Co. obtained an injunction against the plan.[74] Shell was supported by Exxon, Cities Service, Mobil, Union Oil, Phillips, and the American Petroleum Refiners Association, which filed amicus briefs opposing the system. However, as with octane posting, industry reaction was not uniform.[75] Some independents (*e.g.*, Tenneco) were willing to accept the system, presumably because their competitive position would be improved.[76] One cannot assume that any government regulation opposed by major oil companies is necessarily good for consumers. However, the statements made by the companies and trade journals and the differences between the reactions of major refiners and independent marketers to the proposals reinforce the theoretical conclusion developed above[77] that increased competition would indeed follow the establishment of standards.

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70 *Oil Fights Octane Posting Rule*, NAT'L PETROLEUM NEWS, July 1971, at 62.

71 *See, e.g.*, Hunt, *Trade Associations and Self Regulation: Major Home Appliances*, in R. CAVES & M. ROBERTS, REGULATING THE PRODUCT 39, 52-53 (1975).

72 *See* text accompanying notes 58-61 *supra*.

73 Telephone conversation of Mr. Charles Colyer of Standard Oil of Indiana with the author (March 8, 1977).

74 A preliminary injunction was obtained on June 29, 1973, in the Circuit Court for Hillsborough County, Fla. The injunction became permanent on October 16 of the same year. The State of Florida did not appeal.

75 Mr. Charles Colyer, an executive of Standard Oil of Indiana who had participated in the formulation of the rule, testified in favor of its adoption.

76 The opinion of Mr. Sydney Andrews, Director, Division of Standards, Florida State Department of Agriculture, is that some oil industry majors opposed the system because they "felt that it would imply fungibility"; *i.e.*, that gasoline from different companies was identical. Telephone conversation with the author (March 9, 1977).

77 *See* text accompanying notes 58-63 *supra*.

D. *Costs of Gasoline Quality Standards*

Although the benefits to consumers and retailers of a quality standards sysem for gasoline would be great, these benefits must be compared to the costs of the proposed system before it is adopted. The direct cost of perfecting standards and testing gasoline is apparently no deterrent to the proposed system of government standards. When the House Commerce Committee was considering the Petroleum Marketing Practices Act of 1976, the Congressional Budget Office estimated the cost of testing the octane content of gasoline. The CBO estimated that in 1978, the first full year of required octane posting under the proposed bill, it would cost the EPA about $1.5 million to spot check about 25% of the 189,000 retail gasoline outlets.[78] The EPA was chosen as the testing agent because it already monitors the lead content of gasoline. If the spot checking is expanded to include at least an annual visit to every station, the cost of monitoring octane quality would still be only about $6 million. Even if expanding the testing to include driveability and cleanliness were to greatly increase costs,[79] the program would be cheap when compared either to the additional benefits to consumers[80] or to the cost of oil industry advertising.[81] Furthermore, grading gasoline is less costly and surely represents a lesser intrusion on the freedom of private enterprise than the FEA price regulations currently in effect.[82]

The largest potential costs of grading gasoline are the possibility of a short-run decline in gasoline quality and a long-run decline in research and development to improve gasoline.[83] Neither of these costs is likely to be significant.

78 *See* note 61 *supra*.

79 In a telephone conversation with the author, David Tordoff of the EPA Boston regional office estimated that collecting samples was about 30 to 40% of the total cost; this would not increase if the number of tests done to each sample increased.

80 Although no precise estimate of benefits is available, even a 1-cent-per-gallon average price drop would save consumers about $1 billion per year. *See* note 34 *supra*.

81 In 1974, for example, the advertising budget for Exxon was approximately $19,398,200; for Shell, $15,640,900; for Mobil, $13,806,300. *How Oil Spends Its Ad Money*, 68 NAT'L PETROLEUM NEWS FACTBOOK 1976, at 18.

82 FEA price regulations are estimated to cost the oil industry $500 million per year in meeting administrative requirements; the cost of government administration of the regulations is $47 million. This is in addition to whatever allocative inefficiency the rules cause. *See* [1977 CURRENT VOLUME] ENERGY MGMT. REP. LETTER No. 190 (CCH) (January 19, 1977), at 2.

83 *See Marketing Practices in the Gasoline Industry: Hearings Pursuant to S. Res. 334*

1. Short-Run Decline in Gasoline Quality

The possibility of a short-run decline in quality arises from the refiners' incentive not to exceed the minimum quality for each grade. For example, if the octane number satisfying "grade X" anti-knock performance ran from 90 to 92, refiners would produce only 90 octane gasoline. They would so respond because increasing octane will increase costs but not price until the next highest grade is reached. There would be more uniformity among gasolines, causing consumers to sacrifice some variety in their choice, and leading refiners to become indifferent to qualities not included in the government specifications.[84]

The seriousness of this problem depends on the extent of differences among brands of gasolines in the absence of government standards. This is a question on which there is almost no quantitative evidence. However, in the summer of 1970, the Department of Defense conducted a large-scale survey of the quality of commercially available gasolines. The Defense Fuel Supply Center compared analyses of gasoline gathered by the U.S. Bureau of Mines with the DOD specification for bidders on fuel contracts. This specification "closely parallels the industry accepted standard"[85] and divides gasoline into regular and premium grades based on octane. The Supply Center found that "approximately 9% of the gasolines included did not fully conform to the federal specification,"[86] indicating that there are differences among gasolines. But the Supply Center was unable to detect any difference in the performance of gasolines which did meet the federal standard (*i.e.*, 91% of the total), reporting that

> [a]t this time the DOD (Department of Defense) does not have any data to support there being any quality differences between gasolines which conform to the grades and re-

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Before the Subcomm. on Antitrust and Monopoly of the Senate Comm. on the Judiciary, 91st Cong., 2d Sess., pt. 3, at 37, 87-98 (1970) (testimony of Dayton H. Clewell, Senior Vice-President of Mobil Oil Co., and Annon M. Card, Senior Vice-President of Texaco Oil Co.) [hereafter cited as *Marketing Practices*].

84 *Id.* This is one reason why a comprehensive system such as the SAE-ASTM proposal is more attractive than simple octane posting.

85 *See id.* pt. 2, at 531 (letter from Gen. Chase to Sen. Hart explaining specifications).

86 *Id.* 531.

> quirements of the applicable specifications but are purchased from different suppliers.[87]

That is, even though there may be minor physical differences among gasolines satisfying the specification, they do not have perceptible effects on performance. There is a great deal of impressionistic evidence which supports this view. Such evidence includes the exchanges of gasoline among different refiners,[88] the uncharacteristically candid admissions of oil industry representatives before a congressional subcommittee and to the press,[89] and the fact that automobile manufacturers do not specify gasoline brands.

Even if significant differences between gasoline brands exist, however, consumers currently are unable to take advantage of them because of lack of information. Since image advertising conveys no technical information, it is hardly plausible to assume that consumers have chosen the gasoline they buy on the basis of real performance differences. Therefore a slight decrease in gasoline variety cannot diminish consumer welfare.

2. Long-Run Decline in Research and Development

The possibility of a long-run decline in the rate of improvement in gasoline arises from the loss of incentives to innovate,[90] because the innovator's gasoline would not be perceived as unique. A performance standard for gasoline would do nothing to inhibit research aimed at cost reduction, however, because benefits from that research can be collected by an oil company without advertising. Furthermore, countervailing

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87 *Id.* 521-22.

88 *Id.* 702-03 (appendix 2 to statement of Dr. Fritsch, Co-Director, Center for Science in Public Interest).

89 *Id.* pt. 1, at 116. F. Lichtman, Chairman of the Legislative Committee of the Society of Independent Gasoline Marketers of America, said: "[t]o differentiate it [Ford Benzol] from Tulsa gasoline, we add something . . . because we have to have some difference in order to maintain that Benzol registered trademark and to sell it at a price different from the others. . . . It doesn't do a darned bit of good."

William Butler, marketing vice president of Mobil Oil, was recently reported by the *Wall Street Journal* to have said that during the Arab oil embargo motorists were happy to find gasoline under any name, and many began to realize that there was no difference between their former brand favorites and the cheaper private brands. Wall St. J., Mar. 28, 1977, at 16, col. 2.

90 *Marketing Practices, supra* note 83, pt. 3, at 37 (testimony of Dayton H. Clewell of Mobil Oil).

pressures for innovation are likely to arise as strict pollution control requirements become increasingly important and gasoline research becomes more of a cooperative endeavor of government and the oil and automobile industries. In short, the direction of the influence of standards on research may be to reduce research, but the magnitude of the effect is likely to be small.

IV. Conclusion

Unfortunately, the world crude oil market cannot be made competitive by the United States, which imports about 40 percent of its oil requirements. Divestiture of production from refining would have no effect on the world price of oil, for that is determined by the OPEC countries, and their cartel power is independent of the organization or behavior of the American oil companies. The only influence American oil companies will have on the price of crude for the next decade is through their success in finding reserves outside OPEC. We cannot make the oil crisis disappear by making the largest U.S. oil companies disappear.

However, the U.S. government does have the power to increase competition in the refining and marketing of petroleum products, and increased competition in these activities would yield significant benefits to consumers. By establishing standards for gasoline, the government would reduce consumer ignorance and thus diminish the influence of advertising. As brand indentification atrophies, consumers will become more price conscious and price competition will increase. This attack on brand identification would also increase competition by making it easier for new firms to enter either refining or marketing. Comprehensive standards for gasoline are feasible, and would be a more certain means of increasing competition than the divestiture of marketing from refining.

One caveat remains: this argument for gasoline standards rather than divestiture has been an economic rather than a political argument. The objective throughout this article has been to determine how consumers' economic welfare can be improved. That is not to deny that there may well be political

reasons for restructuring the petroleum industry. Society may desire smaller oil companies as an end in itself rather than as a means to lower gasoline prices. In that case, divestiture may be desirable even if it increases the cost of petroleum products slightly. Dr. Frederic Scherer stated this issue precisely:

> It seems to me then that the feared social costs of petroleum industry reorganization ought, if I assessed correctly, to be only a minor deterrent to action. The more important question is what kind of industrial power structure and hence, ultimately, what kind of society we wish to have. That fundamental issue must be resolved either by Congress or the judicial system.[91]

The analysis presented in Sections II and III indicates that the political benefits of divestiture would not include reducing oil companies' manipulation of consumers through image advertising, or encouraging new entrepreneurs in refining and marketing. But product standards would have the political benefit of restoring consumer sovereignty by making consumers fully informed purchasers of gasoline. Consumers' increased freedom of choice would be of direct and immediate benefit to them, and also would expand the possibilities for newcomers to enter downstream areas of the oil industry.

These effects of product standards may seem of relatively limited significance, since the economic inefficiencies caused by major companies' advertising are small compared to those caused by the consuming and producing countries' governments. But as Adam Smith wrote 200 years ago,

> The violence and injustice of the rulers of mankind is an ancient evil, for which, I am afraid, the nature of human affairs can scarce admit of a remedy. But the mean rapacity, the monopolizing spirit of merchants and manufacturers, who neither are, nor ought to be, the rulers of mankind, though it cannot perhaps be corrected, may very easily be prevented from disturbing the tranquillity of any body but themselves.[92]

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91 *Hearings on S. 2387, supra* note 5, at 2137.

92 A. SMITH, *supra* note 63, bk. IV, ch. III, 82-83.

TENSIONS AND CONFLICTS IN FEDERAL POLLUTION CONTROL AND WATER RESOURCE POLICY

JAMES T. B. TRIPP*

Are our national water pollution control and water resource development programs overemphasizing immediate results at the expense of our long-range effort to eliminate water pollution? Mr. Tripp examines the Federal Water Pollution Control Act Amendments of 1972 as well as the EPA's administration of the FWPCA and finds an imbalance that favors short-term improvements which may be shutting off options for the future. Mr. Tripp then goes on to examine the conflict between federal water resource development projects and water pollution control and concludes that here, too, excessive emphasis is placed on immediate benefits, with detrimental long-range consequences.

This year Congress is considering possible mid-course corrections in the 1972 Amendments. Although Mr. Tripp is primarily concerned with reconciling the basic conflicts in water pollution and water resource policy through changes which could be administratively implemented, his recommendations are equally amenable to legislative implementation.

I. INTRODUCTION

A. *The Complexities of the Nation's Water Quality Control Problems*

With the passage of the Federal Water Pollution Control Act Amendments of 1972 (FWPCA),[1] the United States embarked

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1 Federal Water Pollution Control Act of 1972, Pub. L. No. 92-500, §§ 101-517, 86 Stat. 816, 33 U.S.C. §§ 1251-1376 (Supp. V 1975). Although the 1972 legislation was an amendment to the pre-existing Federal Water Pollution Control Act, the changes were so substantial that for simplicity the 1972 Amendments are referred to herein as "the

on a program to control water pollution and to achieve visionary water resource quality goals before specified deadlines. The objective of the FWPCA is "to restore and maintain the chemical, physical and biological integrity of the nation's waters."[2] The Act consists of a set of goals and policies designed to give meaning to this objective and a mix of scientific, regulatory and planning tools to implement the Act's policies.

Although the drafters of the FWPCA recognized that water quality problems may be complex, the pollution control standards and technological requirements incorporated into the Act assumed that many water quality problems were relatively simple. The drafters presumed that techniques were readily available to resolve many of these problems efficiently, and that known techniques for treating municipal and industrial waste discharges would be compatible with more innovative methods that would be needed to deal with the complex water quality problems that would arise. However, water resource quality and pollution problems generally have proven to be far more complex than the drafters of the FWPCA apparently realized. There is a greater range of contaminants which affect water quality and water resources than was thought earlier, and their impact on aquatic organisms and human health varies widely. There are more sources of contamination, and they have often proven more difficult to identify and control than was believed in 1972. Finally, the development of regulatory programs by the Environmental Protection Agency (EPA) in order to implement the FWPCA has been a more complex and difficult task than had been anticipated.

While the FWPCA recognized the need to develop innovative scientific methods and planning procedures to cope with the complex and long-term water quality problems relating to toxic pollutants and non-point sources of pollution,[3] the Act placed

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FWPCA" or "the Act." *See generally* Zener, *The Federal Law of Water Pollution Control,* in ENVIRONMENTAL LAW INST., FEDERAL ENVIRONMENTAL LAW 682-91 (1974); Parenteau & Tauman, *The Effluent Limitations Controversy: Will Careless Draftsmanship Foil the Objectives of the Federal Water Pollution Control Act Amendments of 1972?*, 6 ECOLOGY L.Q. 1 (1976); Goldfarb, *Better Than Best: A Cross Current and the Federal Water Pollution Control Act Amendments of 1972,* 11 LAND & Water L. REV. 1 (1976), for discussions of the problems of previous federal clean water legislation.

2 Section 101(a), 33 U.S.C. § 1251(a) (Supp. V 1975).

3 Non-point sources are pollution sources which do not emanate from a specific,

great initial emphasis on establishing short-term municipal and industrial effluent control requirements to deal with what appeared to be relatively straightforward water pollution problems. The tendency of the FWPCA to stress short-term over long-term pollution control programs has been exacerbated by the manner in which the EPA has implemented the programs. The EPA has emphasized the programs which confront relatively simple pollution control problems and has postponed the development of technical and institutional mechanisms for dealing with more complex water resource problems.

The policies expressed in the FWPCA do not explicitly take precedence over other national water resource programs, despite the fact that the FWPCA's objective of restoring the integrity of the nation's waters appears designed to give overall direction to national water resource policy. Instead, there is a basic conflict between the multitude of federal water resource development programs and the objective of the FWPCA. Many federal water resource development projects directly or indirectly degrade the quality of water resources. Thus, billions of dollars are being committed to programs for controlling water resource degradation, while at the same time similar amounts of money are being spent on development programs which are at cross-purposes with water pollution control programs.

After setting out the goals and policies mandated by the FWPCA and the tools specified by the Act for accomplishment of the goals and policies, this article in Part II examines the internal tensions between the short- and long-term orientations of the FWPCA. Part III explores the conflict between the FWPCA objective and federal water resource development programs. The discussion focuses on administrative actions which could be taken to mitigate or resolve these tensions and conflicts through vigorous use of existing authority under the FWPCA.

B. *The Goals, Policies and Tools of the FWPCA*

The FWPCA's objective of restoring and maintaining the chemical, physical, and biological integrity of the nation's wat-

locatable point such as the discharge from an industrial plant. The term includes storm water runoff, agricultural, mine, and construction site runoff, salt water intrusion, and hydrologic modifications.

ers is defined in terms of two national goals and four policies for effectuating those goals. The first goal is effluent-oriented, providing that "the discharge of pollutants into the navigable waters be eliminated by 1985."[4] The second goal is water quality oriented. It provides that "[w]herever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish and wildlife and provides for recreation in and on the water be achieved by July 1, 1983."[5] The four national policies Congress considered basic to achieving the goals of the Act are: (1) the provision of federal financial assistance for construction of municipal waste treatment plants; (2) the implementation of a major research and demonstration effort to develop the technology necessary to eliminate the discharge of pollutants into waters of the United States and the oceans; (3) the prohibition of the discharge of toxic pollutants in toxic amounts; and (4) the development and implementation of areawide waste treatment management planning processes to assure adequate control of sources of pollutants in each state.[6]

The FWPCA grants a wide range of legal authority and institutional tools to the EPA and the states to assist them in achieving the two national goals and implementing the four national policies.[7] The EPA is authorized to establish effluent standards for industrial and municipal waste discharges.[8]

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4 Section 101(a)(1), 33 U.S.C. § 1251(a)(1) (Supp. V 1975). The term "navigable waters" is defined to mean "the waters of the United States, including the territorial seas." Section 502(7), 33 U.S.C. § 1352(7) (Supp. V 1975).

5 Section 101(a) (2), 33 U.S.C. § 1251(a)(2) (Supp. V 1975). This water quality goal is often referred to as the "fishable, swimmable" goal. *See generally* B. ACKERMAN, S. ROSE-ACKERMAN, D. HENDERSON, & J. SAWYER, THE UNCERTAIN SEARCH FOR ENVIRONMENTAL QUALITY (1974) [hereinafter cited as ACKERMAN], for a critical evaluation of the goals of the FWPCA. Their conclusion is that the economic cost of achieving the goals outweighs the environmental benefits in many instances.

6 Section 101(a)(3)-(6), 33 U.S.C. § 1251(a)(3)-(6) (Supp. V 1975).

7 Section 101(d), 33 U.S.C. § 1251(d) (Supp. V 1975), provides that "[e]xcept as otherwise expressly provided in this Act, the Administrator of the Environmental Protection Agency . . . shall administer this [Act]." But under the FWPCA the states retain a primary role in implementing the Act. *See* § 101(b), 33 U.S.C. § 1251(b) (Supp. V 1975). A state may take over the NPDES permit program once EPA has approved that program under § 402(b), 33 U.S.C. § 1342(b). Furthermore, the states are primarily responsible for carrying out the water quality management planning requirements of §§ 208 and 303(e), 33 U.S.C. §§ 1288 and 1313(e), and establishing water quality standards under § 303(c), 33 U.S.C. § 1313(c).

8 *See* § 304(b), 33 U.S.C. § 1314(b) (Supp. V 1975). Section 304(b) provides that the

These standards will require municipal waste treatment plants to install secondary treatment processes by July, 1977 and to achieve the "best practicable" waste treatment by July, 1983.[9] Industrial dischargers will be required to institute "best practicable" waste treatment practices by July, 1977 and "best available" waste treatment practices by July, 1983.[10] The EPA can determine what pollutants are being discharged from point sources through its power to require municipalities and industries to monitor their wastes, and then can develop new effluent standards to control discharges of such pollutants.[11] The EPA has the authority to establish effluent standards for toxic substances as well, and can establish pretreatment standards for industries discharging into municipal waste treatment collection systems.[12] Finally, the EPA is required to establish an administrative structure for basin planning and areawide waste treatment management planning to be conducted by the states or by regional planning agencies. The areawide planning is to identify and develop methods to prevent or control complex water quality problems arising from both point and non-point sources of pollution.[13]

In order to achieve its mandate, the EPA has two primary tools at its disposal. First, it can enforce its standards through National Pollution Discharge Elimination System (NPDES) permits. The permit program applies to the effluent standards established for industrial and municipal waste discharges as well as toxic substances.[14] Second, the EPA is authorized to finance grants for construction projects and research and development efforts. The EPA can make grants to local communities for up to 75 percent of the cost of designing and constructing waste treatment plants.[15] It can also award other

EPA must adopt and periodically revise effluent limitations for municipal and industrial point source pollution discharges.

9 Section 301(b)(1)(B), (b)(2)(B), 33 U.S.C. § 1311(b)(1)(B), (b)(2)(B) (Supp. V 1975).

10 Section 301(b)(1)(A), (b)(2)(A), 33 U.S.C. § 1311(b)(1)(A), (b)(2)(A) (Supp. V 1975).

11 Section 308, 33 U.S.C. § 1318 (Supp. V 1975).

12 Section 307(b), 33 U.S.C. § 1317(b) (Supp. V 1975).

13 Sections 208, 303(e), 33 U.S.C. §§ 1288, 1313(e) (Supp. V 1975); 40 CFR §§ 130, 131 (1976).

14 Section 402, 33 U.S.C. § 1342 (Supp. V 1975). The EPA is required to identify and promulgate standards for toxic substances under § 307(a), U.S.C. § 1371(a) (Supp. V 1975).

15 Sections 202(a), 205, 33 U.S.C. §§ 1282(a), 1285 (Supp. V 1975).

grants for research and demonstration projects involving innovative technological, managerial, and institutional techniques for controlling water pollution.[16]

II. Tensions Inherent in the FWPCA and the EPA's Administration of the Act

A. *The Construction Grants Program and Section 201*

In three of the four national policy statements of the FWPCA, Congress recognized the long-term complexities of the nation's water quality problems and the need for alternative and innovative technical and institutional methods of controlling them. These policies are the control of toxic pollutants, the funding of major research and demonstration efforts, and the development of areawide planning. The other policy statement, which calls for federal financial assistance in constructing waste treatment facilities, rests on a contrary assumption that the then existing technology could solve many significant pollution control problems in a short period of time.

This short-term policy orientation is a product of the 1977 interim effluent control standards for both municipal and industrial point source discharges. The 1977 interim requirements have resulted in a commitment to conventional technology for two reasons. First, the short span of time between passage of the Act in October, 1972 and the interim effluent control deadline of July, 1977 for municipal and industrial point source discharges dictated that technology readily available in 1972 would have to be used.[17] Second, the FWPCA defined the interim effluent control requirements in terms of existing technology. For municipal treatment plants, the 1977 effluent limitation is defined in terms of secondary waste treatment, which has existed for decades.[18] For industrial plants, the

16 Sections 104, 105, 33 U.S.C. §§ 1254, 1255 (Supp. V 1975). *See* text accompanying notes 36-49 *infra*.

17 Section 304(b), 33 U.S.C. § 1314(b) (Supp. V 1975), required the EPA to develop initial effluent limitations for all industries and municipal point pollution sources by October, 1973. Such a short time span necessarily meant that the EPA would have to rely on conventional technology to establish these limitations. The EPA did not, however, meet the statutory deadline. Its failure to do so was successfully challenged in Natural Resources Defense Council v. Train, 510 F.2d 692 (D.C. Cir. 1974).

18 Section 301(b)(1), 33 U.S.C. § 1311(b)(1)(B) (Supp. V 1975). Although § 301(b)

1977 requirement is defined in terms of the "best practicable" waste treatment control technology.[19] The result has been a substantial commitment to the use of conventional technology on the assumption that this existing technology will be economically and technically compatible with the advanced technology and management practices to come later in dealing with more complex water quality problems.

Unfortunately, it now appears that in many instances the existing technology is not likely to be compatible with the more radical techniques that will be necessary to achieve the objective of the FWPCA. In many cases the municipal wastewater treatment plant construction grants program, while resolving some serious water pollution problems, is creating a host of new complex water quality problems which promise to be difficult to control or reverse. Similar problems arise from the FWPCA's commitment to existing technology for interim control of industrial pollution discharges. Furthermore, the initial focus on the use of available technology to control municipal and industrial point source pollution has tended to conceal the relative significance of non-point source pollution problems[20] and to de-emphasize toxic pollutant problems which existing technology was not designed to control effectively.[21]

This commitment to existing technology necessary to meet the short-term 1977 interim standards[22] conflicts sharply with the long-term approach of section 201 of the FWPCA.[23] Section 201 describes the kinds of waste treatment management practices which will be required to achieve the 1983 and 1985 goals of the Act, as well as its overall objective. Section 201(b), for example, provides that waste treatment management plans and

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(1)(C) provides that more stringent effluent limitations for point discharges may be required by July, 1977 to achieve water quality standards, this provision has been used only infrequently.

19 Section 301(b)(1)(A), 33 U.S.C. § 1311(b)(1)(A) (Supp. V 1975). *See also* Parenteau & Tauman, *The Effluent Limitations Controversy: Will Careless Draftsmanship Foil the Objectives of the Federal Water Pollution Control Act Amendments of 1972?*, 6 ECOLOGY L.Q. 1 (1976).

20 *See* text accompanying notes 87-93 *infra*.

21 *See* text accompanying notes 50-64 *infra*.

22 *See* Hooker Chem. & Plastics Corp. v. Train, 537 F.2d 639 (2d Cir. 1976). The court held that Congress did not intend "in process" technological changes to be generally considered by the EPA in formulating the 1977 standards.

23 33 U.S.C. § 1281 (Supp. V 1975).

practices applying the "best practicable" standard should take into consideration alternative techniques such as recycling of water, reclaiming of nutrients and other useful pollutants, confined disposal of toxic pollutants to prevent their migration, and other advanced waste treatment techniques. The idea underlying this section is that the overall objective of the Act can be achieved only if industrial and municipal systems become inherently non-polluting and resources are recycled.[24] As Senator Muskie stated in discussing section 201:

> [S]treams and rivers are no longer to be considered part of the waste treatment process. . . . [A]dvanced waste treatment, . . . a level of treatment for which the technology in some respects may not yet exist for practicable application, will be required for every community in the Nation.[25]

The kinds of management plans and practices which section 201 describes as essential for achieving the two goals of the FWPCA must be radical and innovative both technologically and institutionally in order to convert inherently polluting municipal and industrial wastewater systems into non-polluting systems.

Unfortunately, so far the EPA has used an overwhelming proportion of its construction grant funds for the design and construction of conventional secondary treatment plants. As a result, the 1983 effluent limits may not be significantly more

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24 This point was made by Congressman Vander Jagt (D-Mich.) in proposing amendments to § 201 which subsequently became § 201(d)-(f):

> [T]his will enable us to do something about the split personality in the bill before us, because in the opening section of this bill we proclaim the goal of zero discharge of pollutants by 1985, but then we turn around and make this an open-ended program of billions and billions of dollars through the use of conventional equipment which can only give us dirty water, in effect a goal of dirty water by 1976.
>
> This conventional equipment will be virtually useless to us if we ever decide that we meant anything when we talked about the clean water goal of 1985. If we do mean that, then we will have to start from scratch and write off most of the money that we will have spent between now and then as wasted billions of dollars of the taxpayers' money.
>
> If that proclamation of 1985 is to mean really to stop pollution by 1985, if it is to mean anything more than the wishful dream of a drunk lying in a gutter who mutters that he is going to stop getting boiled by some certain day, then we ought to take a much more careful look at the alternative systems.

118 CONG. REC. 10,770 (1972): *reprinted in* LIBRARY OF CONGRESS, CONGRESSIONAL RESEARCH SERVICE ENVIRONMENTAL POLICY DIV., A LEGISLATIVE HISTORY OF THE WATER POLLUTION CONTROL ACT AMENDMENTS OF 1972, 93d Cong., 1st Sess. 666-67 (Comm. Print 1973) [hereinafter cited as LEGIS. HIST.].

25 *Id.* at 165.

demanding than the 1977 interim standards.[26] Although the 1983 limits require "best practicable" waste treatment for municipal plants[27] and "best available control technology economically available" for industrial plants,[28] what is the "best practicable" or "best available" in 1983 may be largely determined by the vast commitment of resources to meet the 1977 standards.[29] This early commitment would defeat the visionary purpose of section 201 to require the development of innovative waste treatment management plans and practices to achieve the goals of the Act.[30] The billions of dollars committed to the construction grants program[31] and the setting of interim

26 For a discussion of the differences between the 1977 and 1983 standards, *see* Note, *The Federal Water Pollution Control Act Amendments of 1972: Ambiguity As a Control Device,* 10 HARV. J. LEGIS. 565, 577-87 (1973).

27 Sections 301(b)(2)(B), 304(d)(2), 33 U.S.C. §§ 1311(b)(2)(B), 1314(d)(2) (Supp. V 1975).

28 Sections 301(b)(2)(A), 304(b)(2), 33 U.S.C. §§ 1311(b)(2)(A), 1314(b)(2) (Supp. V 1975).

29 Where the EPA has attempted to base "best practicable" or "best available" effluent limitations on techniques which have not yet been demonstrated, they have usually been challenged as arbitrary and capricious by the classes of industries subject to the limitations. *See, e.g.,* American Iron & Steel Inst. v. EPA, 526 F.2d 1027, 1048-49 (3rd Cir. 1975). Theoretically, the EPA merely sets an achievable effluent limitation based on the availability of some control technology, and industries may then use any control techniques which satisfy the prescribed standard. However, as Zener, *supra* note 1, at 707-08, suggests:

> As a practical matter, it seems likely that the technologies that the administrator describes will be widely adopted. This will be especially true where a stringent standard has been set and the industry doubts that it can be met; an industry that fails to meet the standard after adopting a technology officially sanctioned by EPA is likely to be in a better position that an industry that fails to meet the standard after adopting some alternative technology. Thus the practical effect of the FWPCA may be to closely involve the Federal Government in prescribing industrial pollution control technology.

30 Some industries may find it cost-effective to recycle and reclaim their wastewater and to reuse its potential resources, rather than to rely on conventional processes to meet 1977 interim requirements. *See Some Factories Gain by Pollution Curbs,* N.Y. Times, Jan. 20, 1977, at 27, col. 1, indicating that this may be taking place on a small scale. However, utilization of such techniques by U.S. industries is more a byproduct than an intended result of the imposition of technology-based pollution control requirements.

Stiff nationwide effluent limitations for most categories of industries under §§ 301(b) and 304(b) would constitute an indirect economic inducement for these industries to develop innovative pollution control systems based on recycling principles. On the other hand, the lack of effective programs to control pollution of groundwater and delays in developing pretreatment standards for industries discharging into regional municipal treatment systems have created economic incentives for some industries to convert their waste disposal methods from direct surface water discharge, subject to § 304(b) effluent limitations and the NPDES permit program, to municipal system or groundwater discharge.

31 Congress authorized a total of $18 billion for fiscal years 1973-75 for the construction grants program. Section 207, 33 U.S.C. § 1287 (Supp. V 1975). *See* note 76 *infra.*

standards based on available technology, though designed to demonstrate our national commitment to eliminate water pollution and to get the country moving immediately toward the clean water objective, may instead serve to stifle development of the innovative waste treatment technology that would be required to approach that objective in actuality.

It would be difficult to resolve this conflict between the approach of the construction grants program and the 1977 interim standards, and the very different approach of section 201, because of the lead time required to study and develop alternative waste treatment techniques. The EPA, however, could have used its authority under the FWPCA to help reconcile these conflicting approaches. Since June 30, 1974, the EPA has had authority to require applicants for construction grants to evaluate alternative waste management techniques and to employ "best practicable" waste treatment technology,[32] which they would be required to do by 1983 anyway. However, the EPA has defined "best practicable" waste treatment for municipal plants in many circumstances to mean little more than secondary treatment.[33]

One effective way for the EPA to minimize the conflict between the short- and long-term concerns of the FWPCA exemplified by the tension between the 1977 interim requirements and section 201 would be to give a higher priority to the other three national policies of the Act. However, as will be shown, the administrative implementation of these three national policies has tended to intensify rather than soften these internal tensions.

It is irrelevant for the purposes of this analysis whether primary responsibility for the ineffective implementation of these three national policies is attributed to the EPA's interpretation of the FWPCA, the budgetary priorities of the Office of Management and Budget, the President, or responsible congressional committees.[34] What is important is that the present

32 Section 201(g)(2)(A), 33 U.S.C. § 1281(g)(2)(A) (Supp. V 1975). *See* LEGIS. HIST., *supra* note 24, at 292.

33 *See* EPA OFFICE OF WATER PROGRAM OPERATIONS, ALTERNATIVE WASTE MANAGEMENT TECHNIQUES FOR BEST PRACTICABLE WASTE TREATMENT 2 (1975) (EPA-430/9-75-013).

34 Upon leaving office, Russell E. Train, former EPA Administrator, claimed that

priorities in the implementation of the FWPCA are imbalanced toward the short-term-oriented provisions and must be changed if the FWPCA objective is to remain achievable.

B. *Implications of Delay in Carrying Out the Three Long-Term National Policies*

The EPA's commitment to the other three national policies of the FWPCA — a research and demonstration effort, the control of toxic pollutants, and areawide waste treatment management planning — has suffered from a lack of funding, inadequate long-range analysis, and numerous delays. To some degree, the lower priority assigned to these three long-term-oriented national policies has followed from the structure of the Act itself, reflecting the congressional desire to achieve immediate and tangible results from the national water pollution control program. The most visible parts of the FWPCA to Congress, the public, and the EPA have been the construction grants program and the NPDES permit program. The construction grants program has been particularly visible as a source of public works jobs at a time of economic recession.[35] Though these programs required enormous bureaucratic energies to be put into gear, they have now acquired substantial bureaucratic momentum.

It seems likely, however, that the lack of priority for the three long-term-oriented policies resulted at least partially from a failure to recognize the seriousness to public health and water quality of introducing toxic pollutants into the aquatic environment, an overestimation of the ability of conventional technology to solve what turned out to be complex water quality problems, and an inadequate amount of scientific and planning

the EPA lacked the budgetary and staff resources to accomplish the multitude of missions assigned it by Congress to protect the nation's land, air, and water. N.Y. Times, Jan. 23, 1977, at 16, col. 1.

35 John T. Rhett, the EPA's Deputy Assistant Administrator for Water Program Operations, testified before the Senate Public Works Subcommittee on Environmental Pollution on February 1, 1977 that the construction grants program was providing about 200,000 jobs nationwide this year. EPA estimates that each $1 billion spent by the program creates 35,000 jobs, including more than 15,000 on-site jobs and 19,500 off-site jobs. With a total authorization of $18 billion under the FWPCA, the construction grants program is the biggest public works program in the nation. *Senate Committee Examines Adding Sewage Grant Funds to Carter Stimulus Plan,* 35 CONG. Q. WEEKLY REPORT 286, 287 (Feb. 12, 1977).

expertise to implement these policies fully. Consequently, the EPA has deemphasized and delayed implementation of statutory mandated research, toxic pollutant control, and areawide planning.

1. The Research and Demonstration Effort

Waste treatment management plans and practices did not exist in October, 1972 to implement the section 201 concept of non-polluting systems.[36] That is a basic reason why Congress included a major research and demonstration effort to develop the "technology necessary to eliminate the discharge of pollutants"[37] as a national policy in the FWPCA. Such a policy, vigorously implemented and appropriately budgeted, could serve as a catalyst for innovation and result in the development of new techniques more compatible with the goals of the Act.

If applicants for construction grants were then required to take these newly proven techniques into serious consideration in their planning and design, a successful research and demonstration program could substantially assist in reconciling the construction grants program with section 201. Unfortunately, this policy has not been vigorously implemented. As a result, the EPA has intensified the conflict between the commitment to known treatment technology to achieve short-term pollution control standards and the innovative waste management techniques sought by section 201. Without demonstration projects incorporating innovative technology and management practices, sanitary engineers have been hesitant to move beyond proven technology in designing treatment systems for construction grant funding. Although innovative demonstration

36 *See* S. REP. No. 414, 92d Cong., 1st Sess. 23-24 (1971), *reprinted in* LEGIS. HIST., *supra* note 24, at 1441-42.

37 Section 101(a)(6), 33 U.S.C. § 1251(a)(6) (Supp. V 1975). Sections 104, 105, 33 U.S.C. §§ 1254, 1255, describe the specific research programs which the EPA is to institute. Section 105(d) relates directly to the development of § 201 management plans and practices, and provides that the EPA:

> shall conduct, *on a priority basis,* an accelerated effort to develop, refine, and achieve practical application of: . . .
>
> (2) advanced waste treatment methods applicable to point and non-point sources, including inplace or accumulated sources of pollutants, and *methods for reclaiming and recycling water and confining pollutants* so that they will not migrate to cause water or other environmental pollution. . . . (Emphasis added.)

projects can be funded through the construction grants program, local communities have a powerful economic disincentive to try out unproven new technology because of the higher monitoring, testing, and evaluation costs of innovative methods. Most of these additional costs have to be paid by the community. This also has contributed to the situation in many cases where only lip service is paid to the requirement that alternative techniques be evaluated as part of the municipal wastewater treatment facilities planning process in order to obtain a construction grant.[38]

The level of funding for the advanced wastewater research and demonstration budget has been so low that the EPA has been able to fund very few projects to demonstrate the viability of new methods on a large scale. The absolute number of dollars spent on advanced wastewater treatment research and associated demonstration projects has declined from $13.7 million in fiscal year 1968 to an estimated projection of $6.3 million in 1976,[39] with devastating results for the national effort to

38 The Office of Technology Assessment, in a recent report, criticized the EPA's excessive focus on short-term research issues concerning the achievement of 1977 interim standards and the lack of long-range research programs to develop long-term, scientifically sound and cost-effective techniques and management practices. U.S. CONGRESS OFFICE OF TECHNOLOGY ASSESSMENT, A REVIEW OF THE U.S. ENVIRONMENTAL PROTECTION AGENCY ENVIRONMENTAL RESEARCH OUTLOOK: FY 1976 THROUGH 1980 at 1 (1976) (OTA-E-32). What this report fails to note is that the tasks assigned to the EPA to set short-term effluent limitations and define technology-based requirements for municipalities and industries virtually forced the EPA to focus on short-term results in the research program.

39 J. Convery, Overview of the Advanced Waste Treatment Research Activities of the Municipal Pollution Control Program 2 (unpublished paper by Acting Director, Advanced Waste Treatment Research Div., EPA Municipal Environmental Research Lab., July, 1975) [hereinafter cited as Convery]. For example, the EPA's research budget devoted to developing waste treatment technology to remove toxic organics from wastewater was a mere $50,000 in fiscal year 1976, only enough to permit limited bench scale studies. Deposition of Jesse M. Cohen (Chief, EPA Physical-Chemical Treatment Sec., Wastewater Treatment Research Laboratory), Environmental Defense Fund v. Train, Civ. No. 74-C-1698 (E.D.N.Y., complaint filed December 3, 1974), at 31. *See* STAFF REPORT TO THE NATIONAL WATER COMMISSION ON WATER QUALITY I-64 (1976), which comments on the EPA's research and demonstration effort:

> *Research and development* into water pollution control, for example, innovative technologies for the treatment and utilization of wastewaters, has actually declined. A comparison of the FY 1975 appropriation for this purpose shows a 14.5 percent decrease over what was being spent in 1969. Impacts of inflation have reduced the purchasing power of the research dollar. As a percentage of construction grants for water pollution control, research and development for municipal technology has decreased from 17.5 percent in FY 1967, to 0.3 percent in FY 1973. One very clear implication of this decline is that Federal construction grant expenditures are almost exclusively for the installation of

develop cost-effective pollution control strategies and section 201 management plans. By contrast, the construction grants program grew from $203 million in 1968 to $4 billion in 1975.[40] The optimal level of support for the EPA's advanced waste treatment research and demonstration effort should probably well exceed $20 million per year.[41]

One area of long-term significance to which the EPA has not paid much attention is sludge management practices. The large number of municipal wastewater secondary treatment plants that are being constructed under the construction grants program have made alternative sludge management practices an important environmental and economic issue. Secondary treatment plants produce three times the volume of sludge produced in primary treatment plants.[42] Yet the EPA has given only belated recognition to the seriousness of the sludge management problem[43] by increasing its budget for sludge management research and demonstration projects from approximately $250,000 in fiscal year 1975 to $1.16 million for fiscal year 1976.[44] However, the implementation of section 201, which calls for the development of scientific management techniques that will permit recovery and reuse of the resources in municipal sludge,[45] will require a much more concerted effort.

Another area which has been neglected despite its long-term importance in the implementation of section 201 is land application treatment of wastewater, which uses soils as treatment

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tried and tested traditional technologies. The framers of P.L. 92-500 hoped for something more imaginative.

40 40 CFR § 35.910-4, -5 (1976). *See* note 76 *infra.*

41 Convery, *supra* note 39, at 36.

42 Convery, *supra* note 39, at 32, estimates that sludge production will increase from some 4.4 million dry tons per year in 1974 to 10.0 million dry tons in 1985.

43 Under Pub. L. No. 92-532, 86 Stat. 1052, *as amended* (codified at 33 U.S.C. §§ 1401-1444 (Supp. V 1975)), ocean disposal of municipal sludge is being phased out. *See* Decision of the EPA Administrator, Interim Ocean Disposal Permit No. PA-010 (Sept. 25, 1975), in which Philadelphia was ordered to phase out ocean disposal of its municipal sludge and to find environmentally sound alternative disposal methods by 1981. Another alternative, incineration, is both expensive and energy-consuming, and may be a new source of air pollution. This underscores the need expeditiously to develop and demonstrate environmentally suitable land-based sludge management practices.

44 Convery, *supra* note 39, at 32-33. This increase, however, resulted in a decrease in funds for wastewater reuse research.

45 Section 201(d)(4), 33 U.S.C. § 1281(d)(4) (Supp. V 1975).

media. The EPA research and development budget for land application treatment of municipal and industrial wastewaters was merely $900,000 in fiscal year 1976.[46] This is only a slight increase over fiscal year 1974, with no dramatic increments projected. Such a budget may be adequate to conduct some basic research, but it is not enough to fund full scale demonstration projects.[47] A budget of $10 to $15 million per year would be necessary to support several demonstration projects, based on research results, to accelerate the use of such methods by municipalities. The paucity of land application demonstration projects probably accounts in part for the hesitancy of EPA regional officers to fund land application waste treatment systems.[48]

Although much of the problem is caused by budget limitations and cannot be blamed entirely on the EPA's administration of the Act, the low priority given the overall research and demonstration effort both endangers the attainment of the water quality and effluent-related goals of the FWPCA and

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46 Personal communication to the author from EPA Robert Kerr Laboratory, Ada, Oklahoma.

47 *Id.* Congress provided a one-time supplemental appropriation of $2.5 million for land application demonstration projects in fiscal year 1975. Other than this, however, the budget has been too small to support any full scale land application demonstration projects. EPA OFFICE OF RESEARCH & DEVELOPMENT, PROGRAM GUIDE: FISCAL YEAR 1976, at 41 (March, 1976) (EPA 600/9-76-009), shows that the extramural budget for soil treatment systems was only $464,000 for fiscal year 1976. This figure has increased somewhat to $637,000 in fiscal year 1977. EPA OFFICE OF RESEARCH & DEVELOPMENT, PROGRAM GUIDE: FISCAL YEAR 1977, at 44 (October, 1976) (EPA 600/9-76-029).

48 This hesitancy on the part of EPA regional offices to fund land application systems has continued despite internal EPA efforts to encourage their use. EPA Deputy Administrator John Quarles has written:

> EPA must do a better job in assuring that land treatment is given a full and adequate consideration as a possible method for municipal sewage disposal in projects funded with Federal grants.
>
> I urge that you ascertain that your regional review of application for construction of publicly-owned treatment works require that land application be considered as an alternative waste management system. If it can be demonstrated that land treatment is the most cost-effective alternative, is consistent with the environmental assessment, and in other aspects satisfies applicable tests, the Region should insist that land treatment be used and should refuse to fund projects using other systems of waste treatment.

Unpublished memorandum of Nov. 1, 1974 to all EPA regional administrators. This memo apparently has had little impact.

For their part, the courts have been hesitant to find decisions of EPA Regional Administrators that reject land application alternatives arbitrary and capricious. *See* North Miami v. Train, 377 F. Supp. 1264 (S.D. Fla. 1974); Mid-Shiawasee County Concerned Citizens v. Train, 408 F. Supp. 650 (E.D. Mich. 1976).

casts in doubt the actual value and meaning of the 1985 clean water objective.[49]

2. Preventing the Discharge of Toxic Pollutants

Like the research and demonstration effort, implementation of the national policy to eliminate the discharge of toxic pollutants in toxic amounts has been substantially delayed. The delay may needlessly endanger public health, as well as vitiate the potential use of the policy as a powerful tool to reconcile the long- and short-term orientations of different provisions of the FWPCA. Resources are being committed in the meantime to pollution control programs which often totally fail to consider toxic pollutants.

Section 307(a),[50] the principal provision establishing the toxic pollutant policy, requires the EPA Administrator to publish a list of toxic pollutants[51] by January, 1973 and to revise it periodically thereafter. This section also requires the Administrator to promulgate, after a hearing, an effluent standard or prohibition for any toxic pollutant within one year of its listing. The factors which the EPA may consider under section 307(a) with regard to the listing and establishment of these toxin standards all relate to the characteristics of and dangers presented by the pollutant.[52] Conspicuously absent are the economic factors which the EPA must consider under section

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49 The decline in EPA's wastewater research budget is possibly part of a broader national trend. The proportion of the U.S. gross national product spent for research and development has declined steadily over the last decade, falling from its peak of 3 percent of the GNP in 1964 to an expected 2.2 percent in 1976. Similarly, the number of scientists and engineers engaged in research and development has declined from 558,200 in 1969 to 527,200 in 1974. NATIONAL SCIENCE FOUNDATION, NATIONAL PATTERNS OF R&D RESOURCES: FUNDS AND MANPOWER IN THE UNITED STATES 1953-1976, at 1, 32 & Table B (1976). This decline is contrary to the trend in most other countries. *See also* Wiesner, *Has the United States Lost Its Initiative in Technological Innovation?*, 78 TECH. REV. 55 (1976); NATIONAL SCIENCE BOARD, NATIONAL SCIENCE FOUNDATION, SCIENCE AT THE BICENTENNIAL: A REPORT FROM THE RESEARCH COMMUNITY (1976).

50 33 U.S.C. § 1317(a) (Supp. V 1975).

51 Section 502(13), 33 U.S.C. § 1362(13) (Supp. V 1975), defines "toxic pollutant" as those pollutants that will cause death, disease, cancer, or physical, behavioral or genetic malfunctions or abnormalities in any organisms or their offspring.

52 These factors include the toxicity of the pollutant, its persistence and degradability, the usual or potential presence of affected organisms in any waters, the importance of the affected organisms, and the nature and extent of the effects of the toxic pollutant on such organisms.

304(b)[53] in establishing effluent limitations for industrial point discharges based on "best practicable" or "best available" control technology.[54]Thus, if a pollutant is deemed toxic under section 307, a more stringent effluent standard can be set which demands a more innovative, and perhaps more expensive, control technology or a greater modification of industrial practices than if the effluent limitation were established solely under section 304(b).[55]

With the development of new analytic techniques in the last five years, it is now clear that toxic and carcinogenic substances are being discharged directly and indirectly into the aquatic environment from a wide range of point and non-point pollution sources. These sources include industrial discharges, agriculture and street runoff, land fills, and even polluted air.[56] If strongly enforced from the beginning, section 307 could have played a significant role in forcing industry to develop techniques to control the discharge of toxic and carcinogenic substances. In the process, industrial firms would have been more likely to adopt alternative techniques for controlling the more traditional contaminants, which might have gone beyond what the technology-based requirements of section 304(b) required.[57] Industries might be able to argue successfully in the public arena that many effluent limitations based on "traditional" pollution measurements, such as biological oxygen demand and suspended solids, should not be more stringent than what is economically justfied. But such economic arguments are likely to find little support from Congress and the public when industrial discharges of toxic substances which may profoundly affect human health are involved. Thus it is apparent that

53 33 U.S.C. § 1314(b) (Supp. V 1975).

54 In particular, among the factors which the EPA must consider under § 304(b) are "the total cost of the application of technology in relation to the effluent reduction benefits to be achieved" and "the cost of achieving such effluent reduction."

55 *See* H.R. REP. No. 911, 92d Cong., 2d Sess., 112-13 (1972), *reprinted in* LEGIS. HIST., *supra* note 24, at 799-800 ("The Committee considers that the discharge of toxic pollutants are much too dangerous to be permitted on merely economic grounds.").

56 *See* R. Harris, Water Quality Management on Long Island: A Case for Recycling Municipal Wastewater by Ground Water Recharge 22-44 (Environmental Defense Fund, October 28, 1975); Epstein, *The Political and Economic Basis of Cancer*, 78 TECH. REV. 35 (1976). *See also* authorities cited in notes 64, 91 *infra*.

57 *Cf.* Union Elec. Co. v. EPA, 96 S. Ct. 2518 (1976) (discussing legality of the "technology-forcing character" of air quality standards under the Clean Air Act, 42 U.S.C. § 1857-1857l (1970 & Supp. V 1975)).

section 307(a) and the national policy to eliminate the discharge of toxic pollutants in toxic amounts represent a potentially potent weapon which the EPA could use to force both industry and municipalities to adopt advanced and innovative waste treatment techniques.

Instead of using this weapon, however, the EPA has lagged far behind the statutory deadlines for the implementation of section 307(a). The EPA did not promulgate its first list of nine toxic substances under section 307(a) until nine months after the statutory deadline.[58] Thereafter, the Natural Resources Defense Council (NRDC) and the Environmental Defense Fund (EDF) instituted court actions seeking to compel the EPA to develop criteria for determining what substances are toxic, to prepare a comprehensive list of toxic substances, and to propose standards for them. These actions finally resulted in a settlement agreement in mid-1976.[59] In that settlement, the EPA agreed to initiate immediately investigations to determine what industries are discharging any of 65 known toxic pollutants, to undertake detailed inquiries to determine the impact of these and other pollutants on aquatic organisms and public health, and to establish effluent standards for these and other toxic pollutants which will protect water quality and human health.[60]

The EPA's efforts to date in the toxic pollutants area have been sporadic. Certain toxic pollutants have been investigated, such as Mirex in Lake Ontario and PCB's in the Hudson River, and the responsible industry vigorously prosecuted and subjected to extensive publicity. However, there has been no systematic effort to determine where toxic pollutants appear in the

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58 40 CFR § 129 (1976). The nine toxic pollutants listed were aldrin/dieldrin, benzidine, cadmium, cyanide, DDT (DDE and DDD), endrin, mercury, polychlorinated biphenyls (PCBs), and toxaphene, 38 Fed. Reg. 24,344 (1973).

59 Natural Resources Defense Council v. Train, 519 F.2d 287 (D.C. Cir. 1975); Environmental Defense Fund v. Train, Civ. No. 75-0172 (D.D.C.) (settlement agreement, June 7, 1976); Natural Resources Defense Council v. Agee, Civ. No. 75-1267 (D.D.C.) (settlement agreement, June 7, 1976).

60 Under the settlement agreement, the EPA may develop effluent limitations for the pollutants named in the agreement under § 304(b), rather than under § 307(a)(2). The toxic pollutant effluent limitations which the EPA develops under the agreement will be incorporated in NPDES permits by 1983. The 65 known toxic pollutants specifically listed in Appendix A to the agreement are considered only an initial list. The EPA is required to add additional pollutants as the evidence warrants.

aquatic envronment and to identify their sources.[61] It is to be hoped that the EPA's settlement agreement in the NRDC/EDF case will mark the beginning of a systematic approach to this complex problem.[62]

The scientific evidence now available makes it clear that many of the carcinogenic and other toxic chemicals found in waters that are important fishing grounds or are used for public water supplies come from discharges of certain classes of industries. An essential step in establishing in a systematic fashion what kinds and concentrations of carcinogenic or other toxic chemicals are actually coming from an industry is to require that industry to monitor its waste discharges for such pollutants. The EPA has the authority to require such monitoring by industrial firms which may be discharging such pollutants into waters used downstream as public water supplies or fishing grounds.[63] Though the complexities of measuring the effects

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61 The EPA recently issued standards for four of the nine toxic pollutants originally listed, 42 Fed. Reg. 2588 (Jan. 12, 1977), and ordered a halt to the direct discharge of PCBs into surface waters from point sources. 42 Fed. Reg. 6532 (Feb. 2, 1977).

62 Under the settlement agreement, the EPA is presently reviewing pretreatment standards for 21 classes of industries believed to be discharging the toxic pollutants of greatest environmental concern. Section 307(b)(1) requires the EPA Administrator to publish a list of proposed regulations establishing pretreatment standards for the introduction of industrial pollutants into municipal treatment works which are not amenable to or which would interfere with such treatment works. The EPA has not yet published any pretreatment standards to control the discharge of toxic chemicals, but it has published four proposed strategy options for establishing and enforcing pretreatment requirements that would apply to the toxic pollutants listed in the NRDC/EDF settlement agreement. *See* EPA Proposed Regulations for Pretreatment Standards for Existing Sources and New Sources of Pollution, 42 Fed. Reg. 6476 (Feb. 2, 1977).

The lack of pretreatment requirements has frustrated the intentions of § 402 of the FWPCA by encouraging industry to discharge wastewater effluents into municipal treatment plants, where no standards are presently enforced, rather than directly into surface waters where numerous limitations must be met. This problem is of critical importance to the overall program of toxic effluent control as has been recently demonstrated in the Hudson and James Rivers. Significant quantities of PCBs and kepone, respectively, were discharged by municipal treatment plants which received these discharges from industrial firms.

63 Section 308(a), 33 U.S.C. § 1318(a) (Supp. V 1975) provides that the EPA can require such monitoring whenever the data sought is "required to carry out the objective of this Act, including . . . developing or assisting in the development of any effluent limitation . . . ." Section 402, which establishes NPDES, specifically refers to § 307 as one of the sections which must be considered in establishing permit conditions before a permit may issue. Thus, the EPA could use the § 308 monitoring tool to implement § 307(a) aggressively through NPDES permits. When a state takes over the NPDES permit authority under § 402(b), 33 U.S.C. § 1342(b), it is empowered to utilize the monitoring authority of § 308.

of individual toxic pollutants are many and should not be underestimated, effective use of the EPA's monitoring authority could greatly facilitate the development of comprehensive knowledge about the specific sources of toxic pollutants, the relative contributions of such contaminants from specific point sources, and by inference the contribution of non-point sources. This would aid the EPA in establishing effective and realistic effluent standards and permit conditions for individual industrial plants, and would expedite the institution of an overall cost-effective management program in particular planning areas.

At present, industrial plants are being required to expend billions of dollars on "best practicable" and "best available" control technology consistent with EPA regulations, though no one really knows to what extent these prescribed treatment processes will control the discharge of toxic substances. When additional data is compiled on the health effects of toxic substances, their sources, and their fate in the aquatic environment, industrial plants may be called upon to modify their waste treatment techniques in order to eliminate toxic substances discharges in ways which are incompatible with steps they already have taken to comply with the "best practicable" or "best available" requirements. This same dilemma may also arise for municipal waste treatment plants, particularly in those urban areas with combined street and sanitary sewer systems.[64] The

64 In Washington, D.C. the largest treatment facility, the Blue Plains plant, receives both sanitary waste water and urban runoff. It is now being upgraded to full secondary treatment capacity and a phosphorus reduction capability is being added. Some 50 overflow outlets in the Blue Plains collection system discharge both urban runoff and raw sewage into the Potomac Estuary during periods of precipitation. The federal government is considering utilizing the Potomac Estuary as an emergency water supply source. *See* DEP'T OF THE ARMY, CORPS OF ENGINEERS, NORTH ATLANTIC DIV., NORTHEASTERN UNITED STATES WATER SUPPLY STUDY, INTERIM REPORT: CRITICAL CHOICES FOR CRITICAL YEARS 19-20 (1975). Furthermore, urban runoff discharges significant loads of toxic organic chemical compounds and heavy metals into receiving waters. *See* K. Slimak & R. Harris, Preliminary Analysis of Organic Chemicals and Heavy Metals in Existing and Potential Recharge Waters (August, 1976) (unpublished; on file at the *Harvard Journal on Legislation*); A. VITALE & P. SPREY, TOTAL URBAN WATER POLLUTION LOADS: THE IMPACT OF STORM WATER (1974) (submitted by Enviro Control, Inc. to the Council on Environmental Quality); D. SHAHEEH, CONTRIBUTIONS OF URBAN ROADWAY USAGE TO WATER POLLUTION (1975) (submitted by Biospherics Inc. for the U.S. EPA Environmental Protection Technology Series). Nevertheless, the expanded Blue Plains facility, now under construction, is going forward without an analysis of the sources of toxic pollutants in the Potomac Estuary, without considering alternative waste treat-

commitment of very large sums of money to waste treatment techniques that are designed to control "traditional" pollutants may be locking in both industries and municipalities so that when toxic substances with adverse public health effects are subsequently identified, there will be no economically feasible method of meeting the effluent standards established for the toxins.

3. The Areawide Waste Treatment Management Planning Policy

As with the other two long-range policies, the delay in the implementation of the national policy requiring the development of areawide waste treatment management planning processes, at a time when the construction grants program is accelerating, has enormous repercussions for the realization of the FWPCA objective.[65] The FWPCA includes two major planning programs, the so-called "basin planning" established by section 303(e)[66] and the "areawide planning" established by section 208.[67] Although these two planning provisions are somewhat different, they overlap enough that the EPA has developed joint regulations encompassing both sections within the term "water quality management planning."[68] Section 208 is the more comprehensive provision; it provides for a continuing areawide planning process which is "consistent with section 201 of the Act."[69] The function of the section 208 plan is to

ment strategies for controlling toxic pollutants, and without any plans to control the overflow discharges.

65 *See* Phillips, *Developments in Water Quality and Land Use Planning: Problems in the Application of the Federal Water Pollution Control Act Amendments of 1972,* 10 URBAN L. ANN. 43 (1975). Phillips notes that delays in initiating § 208 planning processes will put off the time when § 208 plans will be available to serve as guides for consideration of the secondary land use effects of construction grants projects. *See also* Jungman, *Areawide Planning Under Federal Water Pollution Control Act Amendments of 1972: Intergovernmental and Land Use Implications,* 54 TEXAS L. REV. 1047 (1976).

66 Section 303(e), 33 U.S.C. § 1313(e) (Supp. V 1975), provides that each state is to submit its "continuing planning process . . . which is consistent with this Act" to the EPA for approval not later than 120 days after October 18, 1972. No deadline is prescribed, however, for the submission of actual basin plans.

67 33 U.S.C. § 1288 (Supp. V 1975).

68 EPA Policies and Procedures for State Continuing Planning Process, 40 CFR § 130 (1976); EPA Preparation of Water Quality Management Plans, 40 CFR § 131 (1976). *See also* Donley & Hall, *Section 208 and Section 303 Water Quality Planning and Management: Where Is It Now?,* 6 ENVT'L L. REP. 50,115 (1976).

69 Section 208(b)(1), 33 U.S.C. § 1288(b)(1) (Supp. V 1975). The planning process is

identify necessary wastewater treatment works, establish construction priorities, and develop workable procedures (including land use requirements) for identifying and controlling non-point pollution,[70] so that the "swimmable, fishable" water quality goals can be achieved.

Congress attached a great deal of importance to section 208,[71] setting a tight schedule for the EPA, the states, and the planning agencies to follow in implementing the section 208 planning process. Had the compliance schedule of section 208 been rigorously adhered to by the EPA, section 208 planning agencies would have been designated by July, 1973, areawide planning processes consistent with section 201 would have been in operation by July, 1974, and completed section 208 plans would have been ready by July, 1976.[72] However, the initiation of the section 208 program has been delayed for several reasons. These included the need for preparation of section 208 agency designation guidelines, the failure of many state governors to designate section 208 planning areas and agencies, and the EPA's hesitancy to require states to undertake section 208 planning in non-designated areas.[73] Under the present regulations,[74] section 208 plans for most areas of the country will not be completed until at best late 1978. The delay in the initiation of the section 208 planning process seems to be a reflection of the unrealistic compliance schedule set by section 208, the opposition to such planning by some states, the federal government's desire to limit the appropriation of funds for such planning, and the lack of urgency and priority given to section

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under the aegis of designated regional planning agencies in areas with especially complex water quality problems, and responsible state agencies in all non-designated areas. Section 208(a)(1)-(6), 33 U.S.C. § 1288(a)(1)-(6) (Supp. V 1975).

70 Section 208(b)(1), (b)(2)(A)-(K), 33 U.S.C. § 1288(b)(1), (b)(2)(A)-(K) (Supp. V 1975). *See* Natural Resources Defense Council v. Train, 396 F. Supp. 1386 (D.D.C. 1975), *appeal docketed,* No. 75-1873 (D.C. Cir. 1975).

71 *See* S. REP. No. 414, 92d Cong., 1st Sess. 36 (1971), *reprinted in* LEGIS. HIST., *supra* note 24, at 1454; H.R. REP. No. 911, 92d Cong., 2d Sess. 95 (1972), *reprinted in* LEGIS. HIST., *supra* note 24, at 782 (referring to the planning features of § 208 as "the most important aspect of a water pollution control strategy").

72 Section 208(a)(1)-(2), (b)(1).

73 The NRDC filed suit in order to obtain EPA funding assistance for § 208 planning by the states in non-designated areas, and to make the EPA require states in non-designated areas to begin comprehensive § 208 planning. Natural Resources Defense Council v. Train, *supra* note 70.

74 40 CFR §§ 130, 131 (1976).

208 planning by the EPA. The end result is that areawide wastewater management plans designed to implement section 201 and make it possible to achieve the 1983 "fishable, swimmable" goal have been delayed for at least two and one-half years beyond the deadline established by the Act.

This delay in the water quality management planning process has intensified the inherent tension between the FWPCA's long- and short-term provisions. The delay has resulted in: (a) commitment of billions of dollars in federal funds for constructing individual treatment facilities without the benefit of areawide planning analysis, (b) overlooking in some cases of the environmental and land use consequences of the various wastewater management alternatives, and (c) failure to recognize the significance of non-point source pollution. Each of these has irreversible long-run consequences.

a. *Overall coordination:* The most direct effect of the delay in section 208 planning is that for at least an additional two and one-half years the construction grants program is proceeding without being evaluated in the context of an areawide section 208 plan.[75] During this period, in excess of $10 billion of federal construction grants funding will be committed to individual facilities which have not been evaluated pursuant to any comprehensive water quality management plan.[76] Without the benefit of areawide planning, the construction grants program will continue to proceed under the implicit assumption that secondary treatment plants built under the program will make a major dent in water pollution problems. In reality, however, the contribution of non-point sources or other special conditions may cause a secondary treatment plant to have limited

75 Designs for individual treatment facilities might well be different after the completion of the § 208 plan from those developed solely under the construction grants program. Once an initial § 208 plan is completed and approved, all construction grants and NPDES permits for municipal, as well as industrial, point source pollution discharges must be consistent with the plan. Section 208(d), (e).

76 The impact of this delay is magnified by the fact that the construction grants program is now accelerating rapidly. During fiscal years 1973-75, the construction grants program did not proceed as rapidly as Congress had anticipated, due to the impoundment of funds by President Nixon, the careful review that the EPA gave to the many fund applications for facilities which seemed excessively costly, and bureaucratic inertia. Since the Supreme Court's decision in Train v. City of New York, 420 U.S. 35 (1975), which required the EPA to allocate all funds authorized by Congress, the pace has picked up. In 1976, a total of $9 billion was being allocated from funds originally authorized by Congress in fiscal years 1973-75. 40 CFR § 35.910-5(a) (1976).

beneficial effect on water quality. The section 208 planning process is designed to determine if this will be the case *before* building the plant.[77] The construction grants program assumes that secondary treatment is the preferred control strategy in almost every case, without developing the information to evaluate properly whether alternative procedures would be more desirable.

The recent *Staff Report to the National Commission on Water Quality*[78] clearly recognized the import of the delay:

> The strategy . . . relies on *planning* as the essential device for integrating NPDES permits, construction grants, control of non-point sources, projected growth and predicted land use changes into a reasonable formula for local pollution control, attuned to both state and local needs, solutions and priorities. . . . The key elements of the planning process — facility planning and areawide waste treatment planning — are seriously out of synchronization. The 1974 Water Quality Strategy Paper indicated that construction grants, permits, and nonpoint source controls should be consistent with, and serve the purposes of, the relevant plans. Instead, relevant plans are dictated by grants and permits.[79]

77 Unfortunately, the EPA has taken the position that § 208 planning agencies are supposed to rely principally on existing water quality data and are not supposed to engage in activities which are principally of a research nature. 40 CFR § 35.1062(h); 39 Fed. Reg. 17,204 (1974). The lack of comprehensive water quality monitoring data, particularly for nutrients, heavy metals and toxic organics, will probably limit the usefulness and innovative character of many § 208 plans. Thus, delays in pursuing the policy calling for control of toxic pollutants, discussed in text accompanying notes 50-64 *supra,* has serious implications for the quality of areawide planning.

One exception to this dismal situation is the § 208 planning program in process on New York's Long Island under the aegis of the Nassau-Suffolk Regional Planning Board. This § 208 agency has undertaken an extensive program of monitoring for toxic and carcinogenic organic compounds and viruses in the area's groundwater, which is the sole source of Long Island's water supply. The program also monitors storm water runoff discharging into the groundwater, municipal and industrial waste discharges, and estuaries. This kind of water quality data should be invaluable in the evaluation of alternative water quality management programs, which are particularly important in a groundwater-dependent area where recharge of renovated waste waters into the groundwater must be considered in order to maintain the area's hydrologic cycle, rather than discharged into the ocean through ocean outfalls. *See* Slimak & Harris, *supra* note 64, at 3-4.

78 STAFF REPORT TO THE NATIONAL COMMISSION ON WATER QUALITY (April, 1976) [hereinafter cited as STAFF REPORT]. The National Commission on Water Quality is charged with evaluating the water pollution control program and the water quality goals of the FWPCA. Generally, the Commission recommended that Congress retain but delay the 1983 "swimmable, fishable" goal, and recommended redefining the 1985 zero discharge goal to stress conservation and reuse of resources. *But see* 6 ENVT'L L. REP. 1865-66, 1947-48, 1988-90 (1976) (critical comments on the Commission's recommendations by Commission members and several senators).

79 STAFF REPORT, *supra* note 78, at I-64.

The report cited two factors responsible for this lack of effective planning: "(1) the diffuse and uncoordinated planning requirements of the Act and (2) the delay, by EPA, in implementing Section 208."[80]

This delay in planning has tended to prolong the supposedly interim focus on conventional technology in controlling water pollution, precisely contrary to section 208's intended function of implementing section 201 non-polluting system concepts. Furthermore, the commitment of vast sums of construction grant funds before completion of most section 208 plans will greatly diminish the eventual importance of the section 208 plans when completed.[81]

b. *Environmental impact analysis:* The construction of waste treatment facilities, particularly secondary treatment plants, can have significant direct and secondary environmental impacts which may not be immediately perceived. The construction grants program does not place special emphasis on the necessity for careful environmental impact analysis of alternative wastewater treatment plans. Indeed, the experience under the construction grants program suggests that environmental analysis of wastewater treatment facilities has generally followed *after* the design of the facility, and that even then the analysis of secondary land use and other environmental impacts is in many cases virtually nonexistent.[82]

80 *Id.*

81 The EPA has probably even further extended the period before the § 208 planning process has a significant impact on facilities planning under the construction grants program by the position it has taken on the relationship between the two. *See* A. Breidenbach, (Asst. Admin. for Water & Hazardous Mat'ls.), Relationship Between 201 Facility Planning and Water Quality Management (WQM) Planning (EPA Program Guidance Memorandum, Construction Grants No. 66, February 9, 1976). Rather than encouraging the § 208 planning process to critically evaluate and control planning for individual facilities as rapidly as possible, this memorandum emphasizes the independence of the two processes until the § 208 plan is approved, and even then directs ongoing facilities planning to continue as before unless an alternative approach is clearly justified under the § 208 plan on economic or environmental grounds. This may mean that the § 208 planning process may have little effect until sometime in 1979 on the design of individual waste treatment facilities.

82 *See* J. FENSTERSTOCK & D. SPEAKER, USE OF ENVIRONMENTAL ANALYSES ON WASTEWATER FACILITIES BY LOCAL GOVERNMENTS (1974) (prepared for EPA Office of Research & Development, EPA 600/15-74-015) (discussing the history of the design of four major sewer projects where the environmental review was highly deficient, and concluding that "environmental considerations played a relatively minor role in the decisionmaking processes"). Frequently, the basic decisions about the design, capacity, and treatment process of a wastewater treatment facility are made by EPA construction grants personnel. Thereafter, the environmental impact analysis and water planning

Federally funded treatment facilities will frequently alter the development of land in the area, and this can result in creating new point and non-point sources of water pollution. The location of interceptor pipes, the capacity of the wastewater treatment system, the quality of treatment, and the method of disposal may induce changes in land use and in the affected area's hydrologic characteristics.[83] For example, the construction of interceptor pipes traversing rural or agricultural land may suddenly subject this land to enormous development pressures by making it more accessible and cheaper to develop. Developing the land then brings with it new water pollution problems.[84] These effects can be quite significant; in fact one EPA report has concluded that "sewer investments seem to have stronger and more direct secondary effects than new highways."[85]

The methodology for identifying and determining the desirability of these secondary land use and water quality impacts

branches of the EPA have an opportunity to evaluate the facility plans. Section 208 planning should help to correct this imbalance.

83 *See, e.g.*, S. BASCOM, SECONDARY IMPACT OF TRANSPORTATION AND WASTE WATER INVESTMENTS: RESEARCH RESULTS iii (1975) (prepared for EPA Office of Research and Development, EPA-600/5-75-013); URBAN SYSTEMS RESEARCH & ENGINEERING, INC., THE GROWTH SHAPERS — THE LAND USE IMPACT OF INFRASTRUCTURE INVESTMENTS 48-57 (1976) (prepared for the Council on Environmental Quality); URBAN SYSTEMS RESEARCH & ENGINEERING, INC., INTERCEPTOR SEWERS AND SUBURBAN SPRAWL: THE IMPACT OF CONSTRUCTION GRANTS ON RESIDENTIAL LAND USE (1974) (prepared for Council on Environmental Quality). *See also* Federman, *The 1972 Water Pollution Control Act: Unforeseen Implications for Land Use Planning*, 8 URB. LAW. 140 (1976); Synder, *The EPA's Position: A Rational Approach to Land Development*, 19 VILL. L. REV. 732 (1974); Phillips, *supra* note 65.

84 *See* COUNCIL ON ENVIRONMENTAL QUALITY, FIFTH ANNUAL REPORT ON THE COUNCIL ON ENVIRONMENTAL QUALITY 36-39 (1974).

85 S. BASCOM, SECONDARY IMPACT OF TRANSPORTATION AND WASTE WATER INVESTMENT: RESEARCH RESULTS, *supra* note 83, at 1. The land use, and, therefore, water quality impacts of the wastewater facilities program seem to be particularly strong at the suburban fringe, because the greatest influence of sewer investment appears to be in the construction of single family housing. *Id. See also* Hanke & Davis, *Potential for Marginal Cost Pricing in Water Resource Management*, 9 WATER RESOURCES RESEARCH 808, 808-10 (1973), which shows that beneficiaries of federally-funded wastewater and water supply facilities, as well as other water resource projects, seldom if ever pay user charges which accurately reflect the social costs of furnishing those services. Since the costs of wastewater management and water supply are usually highest at the suburban fringe, present pricing policies subsidize such development. *See* text accompanying notes 167-76 *infra*.

The EPA has attempted to control undesirable land use impacts of new sewer construction by awarding federal funds only to new sewer systems which do not provide for large amounts of excess treatment capacity. 40 CFR § 35.925-13 (1976). However, because sewer systems are designed to serve communities for a 25-50 year period, by their nature they must provide for future growth. This regulation makes little provision for estimating that growth, and thus by itself does little to control the secondary impact.

is not well understood by those involved in the design of treatment facilities. In many cases, such analysis is not even attempted by the responsible government operating agency. The planning requirements of section 208, however, specifically address these long-term land use and secondary water quality impacts of wastewater treatment facilities.[86] If it were not for the delays in implementing this planning program, section 208 could play the major role of encouraging comprehensive environmental analysis, helping to rectify the problem of undesirable and unforeseen secondary impacts.

c. *Non-point source pollution:* One of the water pollution problems most likely to arise from alterations in land use patterns is new non-point sources of water pollution.[87] For example, in groundwater areas, regional secondary wastewater treatment plants which discharge into coastal waters may hydrologically reduce surface stream flows and induce salt water intrusion into estuaries, or the ground water itself, by lowering the water table.[88] Although in planning for the facility such secondary impacts may not be adequately analyzed and thus not foreseen, the section 208 planning process is required fully to evaluate the impact of non-point source pollution.[89] Furthermore, in

86 Phillips, *supra* note 65, at 94, suggests that active application of the National Environmental Policy Act environmental impact statement requirement, 33 U.S.C. § 1371(c), could serve as a workable alternative environmental planning process for evaluating the secondary impact of treatment works until delayed section 208 plans are completed. But environmental impact statements, although helpful, are no substitute for thoughtful and comprehensive § 208 plans.

87 The term as used here includes agricultural, construction site, mine, and storm runoff, as well as salt water intrusion and hydrologic-modifications.

88 On Long Island, the EPA and New York State have been funding construction of large secondary treatment facilities with ocean outfalls for discharging waste water. The U.S. Geological Survey reports predict that two such facilities will reduce the groundwater table in affected areas by as much as 20 feet and reduce stream flows by up to 40 percent. U.S. Dep't of the Interior, Geological Survey, Analog-Model Analysis of Hydrologic Effects of Sewerage in Southeast Nassau and Southwest Suffolk Counties, Long Island, New York 18, 20 (Open File Report 75-535, 1975). Since the groundwater serves as the area's public water supply and sustains the fresh water flows into the area's estuaries, the discharge of wastewater into the ocean will have severe impact on the salinity level in Great South Bay along Long Island's south shore. Great South Bay accounts for some 50 percent of the country's harvest of hardclams, which are salinity sensitive, each year. The salt water intrusion in Great South Bay may reduce shellfish productivity by as much as 50 percent in affected portions of the Bay. This serious non-point source pollution impact arises from the operation of wastewater treatment plants which are designed to reduce nitrate concentrations in the groundwater. The continuation of construction grants for such facilities is the subject of ongoing litigation. Environmental Defense Fund v. Train, Civ. No. 74-C-1698 (E.D.N.Y., Dec. 3, 1974).

89 Section 208(b)(2), 33 U.S.C. § 1288(b)(2) (Supp. V 1975), requires a § 208 plan to

some parts of the country, non-point source pollution constitutes the most significant source of the critical contaminants for improving water quality. Thus in the absence of a comprehensive section 208 plan,[90] irreversible commitments of scarce resources may be made to conventional treatment facilities which do not have the anticipated effect of significantly improving water quality, and may also have the secondary effect of inducing more non-point source pollution.

The implications for non-point source pollution of delay in the section 208 planning program are compounded by the shortcomings of the EPA's stormwater research and demonstration effort. Although a major contributor of contaminants in the nation's waters is the non-point source of stormwater runoff,[91] the EPA's research budget for stormwater research

prepare a process to identify and control, if feasible, non-point source pollution including salt water intrusion. It is presumably unlikely that a § 208 plan would recommend construction of a treatment facility to control one water quality problem which would also create salt water intrusion in an estuary — a non-point source of pollution which the § 208 plan is supposed to control.

90 Aside from the § 208 requirements, the FWPCA is vague about procedures for dealing with the non-point source pollution problem. The Act merely provides that the EPA is to issue guidelines for evaluating processes for controlling non-point sources of pollution. Section 304(e)(1), (2)(A)-(F), 33 U.S.C. §§ 1314(e)(1), (2)(A)-(F) (Supp. V 1975). The Act also states that the control procedures which the § 208 planning agencies should consider include land use requirements. Section 208(b)(2)(F)-(H), 33 U.S.C. § 1288(b)(2)(F)-(H) (Supp. V 1975).

91 *See* EPA OFFICE OF RESEARCH & DEVELOPMENT, PROGRAM GUIDE: FISCAL YEAR 1976, at 40 (1976) (EPA 600/9-76-009) (suggesting that one-third of U.S. stream lengths are polluted with urban runoff characteristics). For data on urban runoff pollution characteristics, *see, e.g.*, J. SARTOR & G. BOYD, WATER POLLUTION ASPECTS OF STREET SURFACE CONTAMINANTS (1972) (Office of Research and Monitoring, EPA-R2-72-081); R. PITT & G. AMY, TOXIC MATERIALS ANALYSIS OF STREET SURFACE CONTAMINANTS (1973) (EPA Office of Research and Development, EPA-R2-73-283); J. OMERNIK, THE INFLUENCE OF LAND USE ON STREAM NUTRIENT LEVELS (1976) (EPA Office of Research and Development, EPA 600/3-76-014); K. Slimak & R. Harris, Preliminary Analysis of Organic Chemicals and Heavy Metals in Existing and Potential Recharge Water, *supra* note 64.

The pollutants in urban stormwater runoff include pesticides, nitrates, natural animal and plant materials, products of petroleum and combustion of petroleum from home heating, automobiles, garages, filling stations, tarred and asphalted roads, and airports. All of the studies concur that stormwater runoff represents a significant source of contamination of the receiving water quality and that the lack of control over this source will, in all likelihood, decrease the possibility that significant improvements in water quality will be achieved by treatment of municipal wastewater alone. The magnitude of stormwater runoff contaminant loads compared to contributions from municipal treatment plants has also been assessed. J. SARTOR & G. BOYD, *supra*, compared the concentration and loading rates of runoff with sanitary sewage for a hypothetical city with a population of 100,000 and a drainage area of 1400 acres. They calculated that the pollutant loadings from stormwater runoff for a fixed period of time for several pollutants were well in excess of the loadings discharged by a secondary treatment plant for the same city. *Id.* 1-2.

has declined steadily in the last few years.[92] This means the EPA is unable to finance demonstrations of a variety of new structural and non-structural methods which are needed in order to achieve cost-effective non-point control techniques. This funding shortfall reduces the usefulness of section 208 plans, for the planning agencies are left without alternatives to costly conventional structural techniques for controlling stormwater runoff.[93]

Thus, it is evident that the delay in initiating and adequately funding the three long-term national policies of the FWPCA other than the construction grants program has had a serious impact on efforts to achieve the Act's visionary water quality goals. This problem has been compounded by the proliferation of federal water resource development programs.

III. Tensions Between Water Resource Development Programs and Water Pollution Control

A. *The Conflict: Federal Water Resource Projects vs. The FWPCA Objective*

Just as there is a conflict between the long- and short-term goals of the FWPCA, there is a conflict between the FWPCA's long-term water pollution control objective of maintenance and restoration of the chemical, physical, and biological integrity of the nation's waters[94] and the short-term result-oriented objectives of federal water resource development programs. Overall federal water policy includes the many federally funded water resource development programs under the aegis of federal agencies such as the Bureau of Reclamation, the Army Corps of Engineers, the Agricultural Stabilization and Conservation Service, the Tennessee Valley Authority, and the Bonneville

92 The EPA's total stormwater research budget for fiscal year 1976 was $950,000, compared to several million dollars around 1970. Of this amount, $799,000 was for extramural funds. EPA Office of Research & Development, Program Guide: Fiscal Year 1976, *supra* note 91, at 40. The EPA 1977 budget for runoff pollution control is $803,000 for extramural funds. EPA Office of Research & Development, Program Guide: Fiscal Year 1977, *supra* note 91, at 42.

93 Partially because the EPA does not have the funds to support stormwater demonstration projects such as dry weather flushing of combined sanitary and storm sewers, some older urban areas, notably Boston, are committing themselves to very expensive treatment facilities to control stormwater pollution.

94 Section 101(a), 33 U.S.C. § 1251(a) (Supp. V 1975).

Power Administration. Billions of dollars are spent on projects under these programs for flood control, water supply, navigation, hydroelectric power, and other public works. Nearly all of these projects have adverse impacts on the chemical, physical, and biological integrity of the nation's waters, and thus actually subsidize the degradation of water resources such as surface streams, estuaries, and wetlands.[95]

Typically, the channelization of surface streams and the construction of dams, reservoirs, and flood control locks and levees adversely affect levels of dissolved oxygen and turbidity, nutrient levels, sediment flow, and surface and ground hydrology. In the process, a wide range of aquatic plants and organisms, the biological resources of the water, are destroyed.[96] In addition, the dredging of surface waters and the disposal of dredged material which accompanies such construction work directly destroys aquatic vegetation, fishing grounds, and both freshwater and coastal wetlands. In turn, the destruction of wetlands profoundly affects water chemistry and quality and its capability to sustain biological activity.

Moreover, the changes in water chemistry brought on by channelization, impoundment, and the destruction of wetlands

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95 *See, e.g.,* National Audubon Society v. Kleppe, Civ. No. 76-0943 (D.D.C., filed May 28, 1976) (involving the Bureau of Reclamation's Garrison Diversion Unit of the Pick-Sloan Missouri River Basin Project, which is designed to provide irrigation water to 250,000 acres of agricultural land, but which plaintiff alleges will destroy more than 100,000 acres of freshwater wetlands).

President Carter recently proposed a review of over 320 federal water resource projects to determine whether they should be continued. In a letter to Congress, Carter noted that many of the current projects under review "are of doubtful necessity now, in the light of new economic conditions and environmental policies." 35 CONG. Q. WEEKLY REPORT 378 (Feb. 26, 1977). On March 23, 1977, Carter announced that 307 water resource projects had passed the initial review and would be funded in the fiscal year 1978 budget. 35 CONG. Q. WEEKLY REPORT 586 (March 26, 1977).

On April 18, however, Carter recommended that 18 water projects not be funded on economic, safety, and environmental grounds, and that five other projects, including the Garrison Diversion Unit project, *supra,* be funded only partially. N.Y. Times, April 19, 1977, at 20, col. 3. The President's review of the water resource projects has aroused great controversy in Congress, which has threatened to force the administration to spend the funds appropriated for the projects. *See* 35 CONG. Q. WEEKLY REPORT 473 (March 19, 1977); N.Y. Times, April 19, 1977, at 20, col. 3.

96 *See* R. M. DARNELL, IMPACTS OF CONSTRUCTION ACTIVITIES IN WETLANDS OF THE UNITED STATES (1976) (prepared by Tereco Corp. for EPA) (No. 600/3-76-045); EPA OFFICE OF WATER PLANNING & STANDARDS, NONPOINT SOURCE POLLUTION GUIDANCE HYDROLOGIC MODIFICATIONS (1976). *See also,* ARTHUR D. LITTLE, INC., REPORT ON CHANNEL MODIFICATIONS 195-269 (1973) (submitted to Council on Environmental Quality).

significantly diminishes the capability of waters to assimilate municipal, industrial, and non-point source wastes which are discharged into them. Thus, the result of water resource development projects may be to make it more difficult and expensive for municipal and industrial dischargers to comply with FWPCA water quality standards.[97]

Adverse secondary effects also result from federal water resource projects. These secondary impacts include increased urban runoff resulting from intensified development of flood plains, heightened pollution of surface waters from intensified navigational use of those waters, increased agricultural runoff, and salt water intrusion.[98] For example, many Corps of Engineers flood control projects and Soil Conservation Service drainage projects are designed to increase agricultural activity near streams and rivers by providing protection from floods or by draining and clearing wetlands such as bottomland hardwood forests. The result of either type of project may be to increase the discharge of silt, agricultural nutrients, and pesticides into these streams and rivers. This discharge can impair agricultural activity downstream.[99] The project thus confers benefits on one group of farmers at the expense of another group whose interests will not be considered until the hidden costs become noticeable. Later, the downstream group in turn

97 If a large navigation or flood control project reduces the capacity of a river to treat municipal and industrial wastes, and at the same time induces development in the river basin, the river may become "water quality limited" rather than "effluent limited" for purposes of water quality management planning under §§ 208 and 303(d), (e), 33 U.S.C. §§ 1288, 1313(d), (e). This would require municipalities and industries to install treatment processes designed to achieve more stringent limitations than the technology-based effluent limitations required by § 301(b), 33 U.S.C. § 1311(b), and established under § 304(b), 33 U.S.C. § 1314(b).

98 *See* authorities cited in note 96 *supra.*

99 *See* Environmental Defense Fund v. Froehlke, 473 F.2d 346 (8th Cir. 1972), *on remand sub nom.* Environmental Defense Fund v. Hoffman, 421 F. Supp. 1063 (E.D. Ark. 1976) (revised Environmental Impact Statement found adequate; injunction dissolved), *appeal docketed,* Civ. Nos. 76-1366 & 76-1471 (8th Cir., Apr. 26, 1976). *See also* Dep't of the Army, Corps of Engineers, Memphis Dist., Final Environmental Impact Statement, Cache River Basin Project, Arkansas (June 1974) [hereinafter cited as *Cache River Basin Project*]. The Arkansas litigation involves the Cache River-Bayou DeView flood control project, which is designed to increase flood protection for farmers, who clear and drain bottomland hardwood forests up to the river's edge, by accelerating the downstream movement of flood waters and (coincidentally) silt. The Corps maintains, however, that the project will not significantly increase turbidity. *Id.* 1.

The Cache River Basin Project is one of the 18 federal water resource projects deleted from President Carter's proposed budget for fiscal 1978. N.Y. Times, April 19, at 20, col. 3. *See* note 95 *supra.*

may become the object of a water resource enhancement project, and the cycle will be repeated.[100]

The scope and pace of federal water resource development projects do not appear to be lessening. In the Northeast, the Corps of Engineers is proposing a huge expansion of the water supply for three major metropolitan areas: New York, Boston, and Washington, D.C.[101] In the South, the Corps of Engineers and the Soil Conservation Service are undertaking flood control and drainage projects to induce the conversion of hundreds of thousands of acres of hardwood bottomland into agricultural land.[102] In the Midwest, Southeast, and South, the Corps of Engineers is constructing or proposing billions of dollars in expanded flood control and navigation projects, particularly in the Mississippi River Valley.[103] In the West, the mounting concern to develop western coal reserves quickly is increasing pressure on the region's water resources. In addition, rapid population growth in the West is increasing the need for expansion of water supply systems. Projects already proposed to meet energy development and other needs include damming and diverting rivers in the Colorado, Yellowstone, and upper Missouri basins.[104] In California, urban and agricultural growth is increasingly straining water resources to meet projected demands. The Bureau of Reclamation is now in the process of planning the development of many of the remaining natural rivers in California and the Northwest for irrigation and water supply purposes.

These federal water resource development projects are pro-

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100 Another example of secondary water resource impact is salt water intrusion that can result from diversion, impoundment, and channelization projects altering downstream water flows. *See* § 208(b)(2)(I), 33 U.S.C. § 1288(b)(2)(I) (Supp. V 1975). *See also* Environmental Defense Fund v. Stamm, 6 ENVT'L L. REP. 20,621 (N.D. Cal. 1976) (where the court found that construction and operation of Bureau of Reclamation reservoirs could affect the salinity of the San Joaquin Delta).

101 *See* DEP'T OF THE ARMY, CORPS OF ENGINEERS, NORTH ATLANTIC DIV., NORTHEASTERN UNITED STATES WATER SUPPLY STUDY, INTERIM REPORT: CRITICAL CHOICES FOR CRITICAL YEARS (1975).

102 *See, e.g., Cache River Basin Project, supra* note 99.

103 *See generally* Dep't of the Army, Corps of Engineers, Vicksburg Dist., Final Environmental Impact Statement, Mississippi River and Tributaries Levees and Channel Improvement (April 1976) (description of flood control program for more than 900 miles of the Mississippi from Illinois to Louisiana).

104 *See, e.g.,* Bureau of Reclamation, Dep't of the Interior, Draft Environmental Statement, Water for Energy, Missouri River Reservoir (Oct. 1976).

ceeding simultaneously with federal programs to control water resource degradation under the FWPCA and other legislation. The conflict between these development projects and the long-term FWPCA objective of maintaining and restoring the integrity of the nation's waters is apparent. Unfortunately, Congress has not clearly resolved this conflict and has left open the question whether water resource development projects are subject to any of the controls and requirements of the FWPCA. If development programs are not so restricted, or are not at least required to be consistent with the 1985 goal, then the character of this country's water pollution control effort and its dedication to the long-term FWPCA objective must be reexamined. There are three possible approaches to making water resource development programs more compatible with the FWPCA objective: to subject the projects to existing controls under the FWPCA; to counterbalance the projects with effective and adequately funded water resource protection programs; and to revise the economic calculus of the projects to account more fully for environmental factors and to institute pricing policies based on considerations of economic efficiency.

B. *Applicability of the FWPCA to Federal Water Resource Development Programs*

Within the FWPCA, there are two major substantive provisions which can be used to regulate administratively some portion of the activities of these development projects. One provision, section 404,[105] the dredge and fill permit authority, deals explicitly with the point and non-point source pollution impacts of dredge and fill activities. Section 404 has been held to apply to federal activities, although it is not clear to what degree it can be used to restrict violations of state water quality standards by federal water resource projects. The other provision, section 208,[106] the areawide waste water treatment planning provision, deals with the identification and control of non-point source pollution problems, such as hydrologic modifications which federal water resource projects typically cause. At the present time the extent to which section 208 water quality management

105 33 U.S.C. § 1344 (Supp. V 1975).
106 33 U.S.C. § 1288 (Supp. V 1975).

plans may place restrictions on federal water resource projects is uncertain.[107]

The degree to which the FWPCA can be used administratively to regulate the point and non-point source pollution impacts of federal water resource development projects depends in part on the scope and meaning of section 313. Section 313 provides that:

> Each department, agency, or instrumentality of the executive, legislative, and judicial branches of the Federal Government (1) having jurisdiction over any property or facility, or (2) engaged in any activity resulting, or which may result in the discharge or runoff of pollutants shall comply with Federal, State, interstate, and local requirements respecting control and abatement of pollution to the same extent that any person is subject to such requirements. . . .[108]

The central issues raised by section 313 concern identification of the pollution requirements which are applicable to federal water resource projects and enforcement procedures to which federal projects are subject.

1. Point and Non-Point Source Pollution of Dredge and Fill Activities: Section 404

a. *Purpose of section 404 regulatory authority:* Section 404 empowers the Corps of Engineers to control dredge and fill activities in navigable waters of the United States through a permit program utilizing guidelines developed in conjunction with the EPA.[109] The section 404 regulatory authority has two basic purposes: first, to protect biological resources of navigable wat-

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107 The basin planning provision, § 303(e), 33 U.S.C. § 1313(e) (Supp. V 1975), may also place restrictions on construction and operation of federal water resource projects which degrade water quality.

108 33 U.S.C. § 1323 (Supp. V 1975). The section further provides:

> . . . The President may exempt any effluent source of any department, agency, or instrumentality in the executive branch from compliance with any such a requirement, if he determines it to be in the paramount interest of the United States to do so; . . .

109 Although the discharge of dredging spoils is considered to be a point source of pollution, Weiszmann v. Corps of Engineers, 526 F.2d 1302, 1306 (5th Cir. 1976), it is covered by § 404 and is specifically excluded from § 402. Section 402(a)(1), 33 U.S.C. § 1342(a)(1) (Supp. V 1975). Since the significant point sources of pollution from water resource development projects arise from dredge and fill activities, § 404, and not § 402, is the important FWPCA permit program regulating such projects.

ers, in particular wetlands and fish and wildlife resources, and second, to maintain water quality.

Section 404 made explicit the authority of the Corps to deny permits to dispose of dredge and fill material in navigable waters in order to protect fish, shellfish and wildlife.[110] The importance of section 404 in the protection of biological resources is underscored by the authority granted EPA in section 404(c) to deny the use of specified disposal sites for dredge and fill material otherwise approved by the Corps of Engineers, if such sites would have "an unacceptable adverse effect on municipal water supplies, shellfish beds and fishery areas (including spawning and breeding areas), wildlife, or recreational areas."[111] Indeed, both the EPA guidelines[112] and the Corps' own regulations issued under section 404[113] emphasize the importance of protecting coastal and freshwater wetlands.[114] Since the degradation of wetlands by dredge and fill activities both directly destroys biological resources and indirectly degrades water quality and biological resources which are indirectly dependent upon wetlands, section 404 plays an important role in regulating both point and non-point source pollution of projects involving disposal of dredge and fill material in navigable waters. For this reason, the scope of the Corps' authority to restrict dredge and fill activities in navigable waters is a critical factor in determining the viability of the FWPCA objective and the 1983 "swimmable, fishable" goal.

b. *Scope of section 404 authority:* While granting the Corps

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110 Section 404(c), 33 U.S.C. § 1344(c) (Supp. V 1975). The Corps had been doing this already under the authority implicit in §§ 10 and 13 of the 1899 Rivers and Harbors Act, 33 U.S.C. §§ 403, 407 (1970). For discussions of the Rivers and Harbors Act, *see* Barber, *Sections 9 and 10 of the Rivers and Harbors Act of 1899: Potent Tools for Environmental Protection,* 6 ECOLOGY L.Q. 109 (1976); Tripp & Hall, *Federal Enforcement Under the Refuse Act of 1899,* 35 ALB. L. REV. 60 (1970).

111 33 U.S.C. § 1344(c) (Supp. V 1975).

112 40 CFR §§ 230.4-.5 (1976).

113 33 CFR §§ 209.120(g)(3), 209.145(e)(3) (1976).

114 The Corps regulations, *id.*, both provide that wetlands "constitute a productive and valuable public resource, the unnecessary alteration or destruction of which should be discouraged as contrary to the public interest." The EPA guidelines, 40 CFR § 230.4-1(a)(1) (1976), incorporate a similar policy statement. Generally, the Corps will not permit an activity involving the discharge of dredge and fill material in wetlands unless the proposed activity is dependent upon wetland resources and environment and feasible alternative sites are not available. *See* 33 CFR §§ 209.120(g)(3)(iv)(a), 209.145(e)(3)(iv), 40 CFR § 230.5(b)(8) (1976).

explicit authority to prohibit dredge and fill activities in order to protect biological resources, section 404 left two important questions unanswered. Section 404 did not unequivocally state that it applied to federal water resource projects, and it did not clearly define to what extent Corps jurisdiction was coextensive with EPA authority under the section 402 NPDES permit program.

Prior to the enactment of the FWPCA, the Corps had jurisdiction under the Rivers and Harbors Act of 1899[115] over private dredge and fill activities which affected navigable waters up to the mean high water line. After passage of the FWPCA, the Corps of Engineers initially took the position that section 404 neither governed its own nor other federal agencies' water resource projects nor extended the Corps' jurisdiction. However, in *Save Our Sound Fisheries Association v. Callaway*,[116] a federal district court squarely held that the Corps of Engineers itself had to comply with section 404 procedures. Soon thereafter, the Corps issued new regulations under section 404 which applied to its own water resource activities.[117] Similarly, a federal district court in *Natural Resources Defense Council v. Callaway*[118] held that the Corps of Engineers' jurisdiction was expanded by section 404 and extended to all waters of the United States, including freshwater and coastal wetlands. Again the Corps complied with the decision by issuing new regulations.[119]

115 Rivers and Harbors Act of 1899, §§ 9, 10, 13, 33 U.S.C. §§ 401, 403, 407 (1970). The Corps had jurisdiction as far beyond mean high water as was necessary to regulate activities which could affect the condition, capacity, or quality of navigable waters below mean high water. *See* authorities cited in note 110 *supra*.

116 387 F. Supp. 292, 305 (D.R.I. 1974). The court concluded that compliance by the Corps with § 404 procedures is consistent with congressional intent behind the FWPCA and would not impair or affect the authority of the Secretary of the Army to maintain navigation. *See* § 511(a), 33 U.S.C. § 1371(a) (Supp. V 1975).

117 33 CFR § 209.145 (1976). 33 CFR § 209.145(a), (d)(5) provide that these regulations govern Corps of Engineers projects involving dredge and fill activities in navigable waters and the oceans.

118 392 F. Supp. 685 (D.D.C. 1975).

119 33 CFR § 209.120 (1976). *See generally* Note, *Wetlands Protection Under the Corps of Engineers New Dredge and Fill Jurisdiction*, 28 HASTINGS L.J. 223 (1976); Ablard & O'Neill, *Wetland Protection and Section 404 of the Federal Water Pollution Control Act Amendments of 1972: A Corps of Engineers Renaissance*, 1 VT. L. REV. 51 (1976).

Congressional response has not been entirely favorable. *See, e.g.*, S. 381, 95th Cong., 1st Sess. (1977) (bill by Senator Tower to restrict the Corps's jurisdiction over wetlands by adopting a narrow definition of navigable waters excluding waters and wetlands not directly adjacent to waterways normally used for recreational boating or commercial traffic). Section 404 is expected to be in the center of controversy when Congress takes up possible amendments to the FWPCA in 1977.

In the light of these decisions and the fact that protection of wetlands and other biological resources is a critical component of the effort to achieve the FWPCA objective of maintaining and restoring the chemical, physical and biological integrity of the Nation's waters, section 404 is the most powerful tool in the FWPCA at present for insisting that planning for federal water resource development projects involving dredging and filling take place at least partially within the FWPCA framework and remain consistent with the FWPCA objective. Compliance with section 404 procedures has resulted in significant modification of several federal water resource projects in order to minimize degradation and destruction of coastal and freshwater wetlands.[120] If the FWPCA objective is to remain achievable, regulation of federal water resource projects in accordance with section 404 procedures is essential.

c. *Compliance with state water quality standards:* Non-federal applicants for section 404 permits to dispose of dredge or fill material in navigable waters must establish under section 401 that their proposed activity will not violate state water quality standards and effluent limitations.[121] The applicant establishes compliance by submitting to the Corps of Engineers a certification from the state in which the dredge or fill discharge will originate that the discharge will comply with state standards.[122] Corps section 404 regulations provide that such certification is generally conclusive with respect to water quality considerations.[123] Since federal agencies do not have to obtain state water quality certifications,[124] it is not clear to what degree the Corps must use section 404 procedures, now applicable to federal activities, to enforce compliance by federal projects involving discharge of dredge or fill material with state water quality standards and effluent limitations. This issue is important since

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120 *See, e.g.*, Dep't of the Army, Corps of Engineers, New Orleans Dist., Final Supplement to Final Environmental Impact Statement, Atchafalaya River and Bayous Chene, Boeuf, and Black, Louisiana (Nov. 1976). This navigation project is one of 18 federal water resource projects which President Carter announced would not be funded in fiscal year 1978. *See* note 95 *supra*.

121 Section 401(a), 33 U.S.C. § 1341(a) (Supp. V 1975).

122 33 U.S.C. § 1341(a)(1) (Supp. V 1975).

123 33 CFR § 209.120(g)(5)(i) (1976). A § 401 certification is conclusive that an applicant for a § 404 permit will comply with state water quality standards unless EPA advises the Corps that other water quality factors must be considered.

124 33 U.S.C. § 1341(a)(6) (Supp. V 1975).

a federal agency might be able to establish that construction and operation of a water resource project, which involves discharge of dredged or fill material in the waters of the United States, would not measurably harm wetlands or other biological resources or that feasible alternative disposal sites were not available,[125] while at the same time the proposed activity would violate state water quality standards. In some cases, it might be easier to prove scientifically that a proposed dredge and fill activity would violate water quality standards than to prove that it would harm biological resources.

The Corps of Engineers regulations under section 404 distinguish between Corps projects involving discharge of dredge and fill material and all other such projects, including those of other federal agencies.[126] For all agencies but the Corps, these regulations include "compliance with applicable effluent limitations and water quality standards" as one of the factors which the Corps considers in reviewing section 404 permit applications.[127] The Corps section 404 regulations specifically applicable to Corps projects do not include a comparable water quality factor.[128] However, EPA guidelines for section 404, which regulate all dredge and fill operations including those of the Corps, provide that consideration must be given to "such water quality standards as are appropriate and applicable by law."[129]

Since federal agencies do not have to obtain state water quality certifications, the present applicability of state water quality standards or effluent limitations to Corps of Engineers or other federal projects involving disposal of dredge and fill material in navigable waters must be determined by reference to section 313 and the broad framework of the FWPCA. Section 313[130] clearly seems to require that federal water resource

125 33 CFR § 209.120(g)(3)(iv) (1976).

126 33 CFR § 209.120(e)(4) (1976). The procedures of 33 CFR § 209.120 thus apply to all applicants, including all federal agencies, except the Corps of Engineers. *See* 33 CFR § 209.145(a) and (e)(5) (1976).

127 33 CFR § 209.120(g)(5) (1976).

128 33 CFR § 209.145(e), which enumerates the factors which the Corps is to consider in the evaluation of its own projects involving the disposal of dredged material in navigable or ocean waters, does not contain a water quality factor comparable to 33 CFR § 209.120(g)(5).

129 40 CFR § 230.5(a) (1975).

130 33 U.S.C. § 1323 (Supp. V 1975). *See* note 108 *supra* and accompanying text.

projects comply at a minimum with effluent limitations and state water quality standards for point sources. Indeed, the Supreme Court construed this provision in *EPA v. California ex rel. State Water Resources Board*[131] to mean that federal point source dischargers governed by section 402 must comply with all federal and state effluent standards, including those state limitations more stringent than EPA requirements that are necessary to meet state water quality standards,[132] to the same extent as any other facilities. However, the Supreme Court interpreted section 313 to require the EPA under section 402, rather than states with approved state NPDES programs,[133] to enforce the applicable standards with regard to federal activities.[134]

The logic of the Supreme Court's decision would indicate that the Corps has the responsibility of enforcing applicable state standards with respect to federal projects involving dredge and fill activities. Thus, the applicable water quality and effluent standards which the Corps should utilize in its section 404 review of federal projects involving dredge and fill activities should be the same standards which the states would use in a section 401 state water quality certification review.[135] However, since the Corps section 404 regulations applicable to Corps projects do not require consideration of the water quality factor,[136] it is not clear what procedures, if any, the Corps must follow to determine the compliance of its own activities involving the discharge of dredge and fill material with state water quality standards.

The recent case of *Minnesota v. Hoffman*[137] did not shed much light on this confused situation. In that case, the Eighth Circuit Court of Appeals held that the Corps of Engineers is not required to comply with state water quality standards in con-

131 96 S. Ct. 2022 (1976).

132 The FWPCA provides that states may set more stringent effluent limitations than otherwise required in order to meet state water quality standards. Sections 301(b)(1)(C), 303(d), (e), 33 U.S.C. §§ 1311(b)(1)(C), 1313(d), (e) (Supp. V 1975).

133 Section 402(b), 33 U.S.C. § 1342(b), establishes the procedure for a state to assume administration of the § 402 NPDES program from EPA.

134 96 S. Ct. at 2035.

135 *See* text accompanying notes 121-23 *supra.*

136 *See* note 128 *supra* and accompanying text.

137 543 F.2d 1198 (8th Cir. 1976), *cert. denied sub nom.* Minnesota v. Alexander, 45 U.S.L.W. 3703 (U.S. Apr. 26, 1977).

nection with its maintenance dredging operations in a navigation project, section 313 notwithstanding. The court reasoned that the overriding concern of Congress was the maintenance of unimpeded traffic in the navigable waters of the United States rather than environmental considerations, and that a different outcome could result in a chaotic situation for river-borne traffic moving from state to state.[138] It is unclear where this decision leaves the Corps of Engineers. The reasoning of the court would not seem to and should not extend to dredge and fill activities in connection with other sorts of federal water resource development projects not primarily concerned with navigation, such as flood control, drainage, irrigation, water supply, and hydroelectric power projects. However, the decision may have the undesirable effect of condoning environmentally destructive Corps maintenance dredging practices which adequate research, technological innovation and planning could largely avoid.[139] In any case, this decision does not foreclose the Corps from acting on its own to take the significant and helpful step of requiring all of its dredge and fill operations to meet state water quality standards. In combination with the application of section 404 procedures to federal projects, this step would be significant in at least mediating the conflict between short-term oriented development programs and the long-term FWPCA objective.

Although section 404 has been instrumental in initiating a reconciliation between FWPCA requirements and water resource development projects, it does not explicitly regulate all of the non-point source pollution impacts of federal water resource projects, such as the hydrologic modifications arising from channelization of a river or clearing or drainage of a watershed. Regulation of such pollution problems would have

138 543 F.2d at 1205, 1208-09.

139 The Corps has recently demonstrated the capability to utilize dredged spoils to restore and create new wetlands. If this proves feasible on a large scale, it could be an important means of protecting water resources provided that the program were adequately funded. *See* ENVIRONMENTAL EFFECTS LABORATORY, U.S. ARMY ENGINEER WATERWAYS EXPERIMENT STATION, DREDGED MATERIAL RESEARCH PROGRAM: THIRD ANNUAL REPORT (1976). A statutory requirement that the Corps navigation project maintenance dredging operations comply with state water quality standards unless such compliance is demonstrably infeasible could have a desirable "technology-forcing" impact on the Corps to undertake the necessary research to resolve the most polluting aspects of navigation project dredging.

to take place within the framework of section 208 or 303(e) water management planning.

2. Water Quality Management Planning: Section 208

Probably the most important water quality problem caused by federal water resource development programs is direct and secondary non-point source pollution.[140] The water quality management planning mandated by both sections 208 and 303(e) is required by section 201(c)[141] to provide for control of *all* non-point sources of pollution. Although neither section specifically includes federal water resource development projects within its planning requirements, the impact of these projects is likely to be significant enough that the effectiveness of the plans would be greatly reduced by the projects' exclusion. The enforcement of section 208 plans which exclude federal water resource development projects would become meaningless in many instances, for little water quality improvement would result. In short, federal development projects' compliance with water quality management plan requirements is critical to achieving the FWPCA objective.

Broadly interpreted, section 313, which deals expressly with the obligations of federal activities to comply with water pollution control requirements, could be used by the EPA to force development projects to comply with all non-point source pollution requirements included in section 208 or 303(e) water quality plans.[142] While arguably section 313's use of the terms "pollutant" and "effluent sources" suggests that this section requires only compliance with point source pollution requirements, section 313 also refers to compliance with requirements "respecting control and abatement of pollution."[143] The better view is that non-point source requirements were intended as well, especially in view of the broad definition of "pollution" in

140 The most significant impact of water resource development structures on water quality arises from their direct hydrologic impact on water flows, stream characteristics, reaeration rates, assimilation capacity, and wetlands and associated biological resources. Also important are secondary impacts resulting from the intensified development these structures often induce.

141 33 U.S.C. § 1281(c) (Supp. V 1975).

142 Section 313's application to point source pollution requirements is discussed in the text accompanying notes 130-39 *supra*.

143 The relevant provision is quoted at note 108 *supra* and accompanying text.

section 502(19).[144] Alternatively, the EPA could take the position that sections 208 and 303(e) directly or section 313 indirectly operates to require federal compliance with water quality management plans developed under the planning provisions of the FWPCA in order to effectuate fully those provisions.[145]

The authority of the EPA to enforce non-point source pollution requirements against federal resource development projects is vague. This vagueness stems at least in part from the fact that the FWPCA is generally ambiguous on the subject of non-point source pollution, even with regard to the requirements for and methods of enforcement against private sector activities.[146] Yet the problems raised by non-point source pollution are so widespread and serious that the EPA should attempt to exercise as much authority in this area as possible under the present FWPCA, without waiting for more specific directions from Congress.[147]

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144 33 U.S.C. § 1362(19) (Supp. V 1975). "Pollution" is defined as "the man-made or man-induced alteration of the chemical, physical, biological, and radiological intensity of water."

145 The inference can be drawn from § 208(b)(2)(I), 33 U.S.C. § 1288(b)(2)(I) (Supp. V 1975), that federal water resource development projects causing salt water intrusion were intended to come within the scope of § 208 planning. This subsection provides that sources of salt water intrusion "from any cause, including irrigation, obstruction, ground water extraction and diversion" are to be identified and procedures are to be developed to control such intrusion. Since most such major causes of salt water intrusion are federal development projects, they must be subjected to this control process if this subsection is to have any significant impact.

A similar argument can be based on § 304(e), 33 U.S.C. § 1313(e) (Supp. V 1975). This section directs the EPA to develop information on procedures to control non-point pollution sources in order to assist § 208 planning agencies. One such kind of pollution, described in §§ 304(e)(1), (2)(F), 33 U.S.C. §§ 1313(e)(1), (2)(F) (Supp. V 1975), is that resulting from "changes caused by construction of dams, levees, channels, causeways, or flow diversion facilities." Since these facilities can only be constructed by federal agencies or by those authorized by the Corps of Engineers and Congress, 33 U.S.C. §§ 401, 403 (1970), the development of such information could only be useful to a § 208 planning agency if it could enforce its plan's requirements against federal development project facilities, and Congress must have intended this by including this section.

146 The water quality management planning provisions, §§ 208 and 303(e), 33 U.S.C. §§ 1288, 1313(e) (Supp. V 1975), do not state how non-point source pollution controls are to be enforced, and the FWPCA contains no permit requirements comparable to § 402, 33 U.S.C. § 1342 (Supp. V 1975), for regulating non-point source pollution. Section 208 planning agencies must not only identify sources of non-point pollution, but also must develop procedures for controlling it.

147 In the area of non-point source pollution, as in many other areas of federal water resource regulation, Congress has given administrative agencies conflicting signals through its delegations of authority based on conflicting policies. Unable or unwilling to resolve these conflicts legislatively, Congress has in effect delegated broad

For the EPA to extend its authority to include federal water resource programs in this manner would not do injustice to congressional intent. The House Committee Report on the FWPCA stressed that "[f]ederal facilities shall be a model for the nation . . . they shall be required to meet all requirements as if they were private citizens."[148] If the EPA extended its authority under sections 313 and 208, the President would still retain the power under section 313 to exempt any specific project from both the FWPCA planning requirements and water quality standards.[149] Similarly, Congress could act to exempt a particular project from all FWPCA requirements. In either case, this would have the additional beneficial effect of forcing a straightforward recognition of the choice to favor water resource development over prevention of water resource degradation.

discretionary power to the EPA to resolve them administratively in order to forge an effective regulatory program. *Cf.* Stewart, *The Reformation of American Administrative Law,* 88 HARV. L. REV. 1669, 1671-88 (1975).

One example of an ambiguous delegation of authority by Congress is the EPA's authority over groundwater pollution. The EPA's jurisdiction under the FWPCA is centered on the term "discharge of a pollutant," § 301(a), which is defined in terms of the addition of any pollutant to "navigable waters," § 502(12)(A). This would seem to exclude groundwater, except that "navigable waters" is defined to mean "waters of the United States," § 502(7), which frees the definition of any connection with the concept of navigability in fact or in law, and thus could include groundwater. *Cf.* Sierra Club v. Lynn, 502 F.2d 43, 63-64 (5th Cir. 1974), *cert. denied,* 421 U.S. 994 (1975); Kentucky *ex rel.* Hancock v. Train, 6 ENVT'L. L. REP. 20,689 (E.D. Ky. 1976). *But see* United States v. GAF Corp., 389 F. Supp. 1379 (S.D. Tex. 1975).

Congress later gave the EPA specific authority to require the states to control groundwater pollution through underground injection that endangers water supplies. Safe Drinking Water Act, Pub. L. No. 93-523, § 2(a), 88 Stat. 1662, 42 U.S.C. § 300h to 300h-3 (Supp. V 1975). However, this statute employed the term "injection well," defined to mean the "subsurface emplacement of fluids by well injection," 42 U.S.C. § 300 h(d)(1) (Supp. V 1975). This language appears to encompass the estimated 300 industrial injection wells in the country, which do not pose a significant pollution threat, but may not include the major sources of groundwater pollution: ponds, lagoons, spreading basins, and municipal landfills. Other statutory provisions which may affect EPA authority over groundwater pollution are FWPCA § 208(b)(2)(K), 33 U.S.C. § 1288(b)(2)(K) (Supp. V 1975), and the Resource Recovery Act of 1976, Pub. L. No. 94-580, 90 Stat. 2796, 42 U.S.C. § 6901 (Supp. V 1975). *See also* Cappaert v. United States, 96 S.Ct. 2062 (1976).

Thus, the EPA has not one but several possible avenues to extend its jurisdiction to include groundwater pollution if it so desires. Congress has repeatedly shown itself unwilling to clarify the ambiguity of these statutes, and the EPA should act under their effective discretionary authority to close this gap in the national water pollution control program.

148 H.R. REP. No. 911, 92d Cong., 2d Sess. 118-19, *reprinted in* LEGIS. HIST., *supra* note 24, at 805-06. *See also* S. REP. No. 414, 92d Cong., 1st Sess. 67-68, *reprinted in* LEGIS. HIST., *supra* note 24, at 1485-86.

149 *See* text accompanying note 108 *supra.*

Compliance by federal water resource development projects with FWPCA water quality management plans would necessitate radical modifications of many of these projects, since so many of them tend to degrade water resources such as wetlands, fishing grounds, aquatic vegetation, and wildlife habitats. However, economic, pricing, and planning tools are available to permit these federal development programs to comply.[150] The adverse impact on water quality of non-point source pollution from these programs is so significant that compliance is a necessary step if the FWPCA objective is to be taken seriously.

C. *Other Federal Protection Programs.*

A second approach to reconciling federal water resource development programs with the long-term "integrity of the nation's waters" objective would be to counterbalance the development programs with other federal programs designed to protect against the types of water resource degradation that are caused by the development programs. Several such programs already exist which have as their specific purpose the protection of wetlands and water-related wildlife habitats. The Coastal Zone Management Act[151] provides for preservation, restoration, and improvement of coastal wetland areas. The Land and Water Conservation Fund Act,[152] the Migratory Bird Conservation Act of 1929[153] and related statutes,[154] the Federal Aid in Wildlife Restoration Act Amendments of 1970,[155] the Wild and

150 Section 304(e), 33 U.S.C. § 1314(e) (Supp. V 1975), requires the EPA to assist § 208 planning agencies by developing information about procedures to control non-point source pollution. In order to minimize the conflict with federal water resource development projects, the information developed by the EPA should emphasize non-structural approaches and other alternative techniques. Without such information, most § 208 planning agencies will be unable to evaluate or implement alternative water resource management programs and will have a hard time formulating effective § 208 plans.

151 Pub. L. No. 92-583, 86 Stat. 1280, 16 U.S.C. § 1451-1464 (Supp. V 1975), *as amended by* Pub. L. No. 94-370, § 2, 90 Stat. 1013 (1976).

152 Pub. L. No. 94-422, 90 Stat. 1313, 16 U.S.C. §§ 4601-4 to 4601-11 (Supp. 1976). *See also* S. REP. No. 367, 94th Cong., 1st Sess. (1975); H.R. REP. No. 1468, 94th Cong., 2d Sess. (1976).

153 45 Stat. 1222, 16 U.S.C. § 715a-715n (1970).

154 Migratory Bird Hunting Act, c. 71, § 4, 48 Stat. 451, 16 U.S.C. § 718(d) (1970); Wetlands Loan Extension Act of 1976, Pub. L. No. 94-215, § 2a, 90 Stat. 189, 16 U.S.C.A. § 715 k-3 (Supp. 1976).

155 Pub. L. No. 91-503, Title I, 84 Stat. 1097, 16 U.S.C. § 669a-669g (Supp. V 1975). Funds for programs under this Act are derived from excise taxes on arms and ammu-

Scenic Rivers Act,[156] the Water Bank Act of 1970,[157] and the Rural Environment Conservation Fund Act[158] all establish programs to acquire wetlands and wildlife habitats with federal funds, although some require matching state grants.

These programs, however, are not very well funded,[159] especially in comparison to federal water resource development programs.[160] As a consequence, they are not succeeding in adequately protecting water resources considering the rate at which these resources are being destroyed by federal water resource projects and the intensified private development such projects encourage.[161] These protection programs often provide only temporary safeguards for water resources. The Water

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nition, and are distributed to eligible state agencies on a 75% federal — 25% state matching funds basis.

156 Pub. L. No. 90-542, 82 Stat. 906, 16 U.S.C. §§ 1271-1287 (1970), *as amended by* Pub. L. No. 93-621, § 1, 88 Stat. 1974 (1975).

157 Pub. L. No. 91-559, 84 Stat. 1468, 16 U.S.C. §§ 1301-1311 (1970).

158 Pub. L. No. 93-86, § 1(28), 87 Stat. 241, 16 U.S.C. §§ 1501-1510 (Supp. V 1975).

159 Under the Migratory Bird Conservation Act of 1929 and related statutes, 16 U.S.C. §§ 715 k-3, 715s, 718(d), a total of $16,000,000 has been appropriated for fiscal 1977 for the acquisition of wetlands and habitats used by migratory waterfowl. 79,000 acres were acquired in 1976, of which 26,000 are protected by permanent easements. In fiscal 1977, the Fish and Wildlife Service expects to acquire another 50,300 acres, 26,000 by permanent easement. Since this program was initiated in 1934, 2,269,000 acres of wetlands have been acquired. (Personal communication to author from Dep't of the Interior, Fish and Wildlife Service.) *See also* DEP'T OF THE INTERIOR, 35 YEARS OF SHARED WILDLIFE MANAGEMENT (1975).

Under the Land and Water Conservation Fund, 16 U.S.C. § 460e-5, almost $16,000,000 was spent in fiscal 1976 to purchase wetlands and wildlife habitats. In 1976, Congress tripled the spending authorization for this Act, effective in fiscal 1980.

160 According to the Budget of the United States Government for fiscal year 1977, the actual budget for watershed and flood prevention operations for the Soil Conservation Service for fiscal year 1975 was $124,527,000 with an estimated budget for 1977 of $135,263,000. For the Corps of Engineers, the construction budget for fiscal year 1975 was $966,338,000 with an estimated fiscal year 1977 budget of $1,266,332,000. The Corps of Engineers' operation and maintenance budget for 1975 was $494,577,000. The 1977 estimate is $583,900,000. In addition, the budget for Mississippi River and Tributaries flood control activities was $120,051,000 in 1975, with $191,220,000 estimated for fiscal year 1977. For the Bureau of Reclamation, U.S. Department of the Interior, construction and rehabilitation funds for water resource projects in 1975 was $244,123,000, with $347,017,000 projected for fiscal year 1977. Operation and maintenance funds for fiscal year 1975 were $100,800,000, projected to $143,000,000 for fiscal year 1977. In addition, the projected 1977 budget of the Bureau of Reclamation for Colorado River Basin salinity control projects is $43,120,000 and for the Upper Colorado River storage project $61,900,000 for fiscal year 1977. THE BUDGET OF THE UNITED STATES GOVERNMENT: FISCAL YEAR 1977, at 208, 224, 242, 243 (1976).

161 Even the protection of state or other public ownership may be insufficient. For example, the Cache River-Bayou DeView flood control project in Arkansas would destroy a significant amount of wetlands acreage in Dagmar State Wildlife Management Area. *Cache River Basin Project, supra* note 99, at 1-2.

Bank Act of 1970,[162] for example, merely authorizes the Secretary of Agriculture[163] to enter into ten-year agreements with farmers not to drain, clear, or cultivate their wetlands which serve as waterfowl nesting and breeding areas, and does not permanently protect any wetlands.[164]

The acquisition and protection of wetlands and wildlife habitats under these programs obviously cannot reconcile the basic conflict between federal water resource development programs and the FWPCA objective; it is no more than a stop-gap measure. However, such programs, if funded at levels more nearly equivalent to federal development projects, would serve the valuable purposes of lessening the impact of the basic conflict and protecting significant amounts of important water resources while a more complete reconciliation of the conflict is developed and implemented.[165] Unfortunately, really significant increases in funding for these programs cannot be achieved by administrative action but must be voted by Congress. This sems highly unlikely in the near future.

D. *Economic Analysis of Federal Development Projects*

The third approach to reconciling the conflict between federal water resource development programs and the FWPCA objective involves changing the methods of economic analysis used by federal agencies administering these programs to determine the economic feasibility and desirability of the development projects. Implementation of this approach involves both changing the present policy of subsidizing the users of

162 16 U.S.C. §§ 1301-1311 (1970). The Water Bank program is designed to function as an economic alternative to drainage. It is carried out primarily in the upper Mississippi Flyway states, which are major waterfowl breeding and nesting areas. In all, the Department of Agriculture has some 3000 agreements under this program in 95 countries.

163 The Agricultural Stabilization and Conservation Service of the Department of Agriculture, which administers many drainage and channelization projects, is also responsible for implementing the Water Bank Act. *See* 7 CFR § 752.3.

164 This program received $16,000,000 in funding for fiscal 1976, and is protecting merely 85,000 acres of wetlands and 160,000 adjacent acres. (Personal communication to author from U.S. Dep't of Agriculture.)

165 The importance of this second purpose of buying time is magnified by the continued rapid pace of federal water resource development projects. The pace of development could be altered significantly if congressional action supports President Carter's intention to delete funding for various water resource projects in his proposed budget for fiscal 1978. *See* note 95 *supra.*

federal development projects and injecting environmental values into the analysis of the desirability of these projects.

In many cases, federally funded navigation, flood control, drainage, and water supply projects are constructed only because the beneficiaries of the project do not have to pay for them. For example, expansions of the inland waterway system are provided at little or no cost to the system's users.[166] Yet if the users had considered financing and maintaining the expansion projects on their own, they would have rejected many of them as economically inefficient and wasteful. Continuation of the traditional policy of subsidizing the economically inefficient use of water resources[167] to obtain short-term benefits will make it virtually impossible to achieve the FWPCA's long-term objective. On the other hand, the economically efficient use of the nation's water resources can contribute to the employment of those resources in an environmentally efficient fashion as well.

The implementation of this notion of economic efficiency involves the development of pricing policies premised upon total social costs, in addition to traditional cost-benefit analysis.[168] The lack of such a pricing policy at present means that federal water resource development planning is preoccupied with meeting demand requirements, rather than placing economically efficient constraints on the demand for construction of new water resource projects and expansion of existing ones. The pricing policy most conducive to the efficient allocation of resources is marginal cost pricing.[169] If marginal cost pricing principles were used as a guide in evaluating water resource project user pricing policy, the efficiency with which water

166 *See generally* Atchison, Top. & S.F. Ry. v. Callaway, 382 F. Supp. 610, (D.D.C. 1974) (expansion of Lock & Dam 26, Illinois); Louisville & Nashville R.R. v. Hoffman, Civ. No. 76-2200 (D.D.C., filed Nov. 30, 1976) (construction of Tennessee-Tombigbee Waterway).

167 The Bureau of Reclamation subsidizes its irrigation water customers by nearly $250,000,000 annually. Willey, Pricing and Water Conservation in Agriculture (Unpublished memorandum prepared by EDF for Water Conservation Conference, University of California at Davis, June 24, 1976).

168 *See* Hanke, *The Political Economy of Water Resource Development,* in TRANSACTIONS OF THE 38TH NORTH AMERICAN WILDLIFE AND NATURAL RESOURCES CONFERENCE (Wildlife Management Inst. March, 1973); Krutilla, *Is Public Intervention in Water Resource Development Conducive to Economic Efficiency?,* 6 NAT. RESOURCES J. 60 (1966).

169 1 A. KAHN, THE ECONOMICS OF REGULATION: PRINCIPLES AND INSTITUTIONS 65-70 (1970).

resources are utilized would improve dramatically.[170] Without it, federal navigation, flood control, drainage, and water supply projects are overdesigned and expenditures for new and expanded facilities are made prematurely.[171]

An examination of the inland waterway system will serve to demonstrate the application of marginal cost pricing principles. At present, commercial and recreational users of the inland waterway system are fully subsidized,[172] so barge operators pay neither the costs of services rendered by the government nor the costs resulting from system congestion. This subsidization can damage competing transportation modes; yet anomalously, economic analyses at present do not even include as a cost of an inland waterway project the potential loss of business the project will cause railroads and other competing modes of transport.[173]

To improve the efficient operation of waterways, different kinds of user charges could be imposed. These charges would include tolls for segments of the system based on the cost of that segment, as well as special "congestion tolls" for waterway system locks with substantial queues.[174] This would force users to

170 Hanke & Davis, *Potential for Marginal Cost Pricing in Water Resource Management*, 9 WATER RESOURCES RESEARCH 808 (1973). *See also* C. Russell & Resources for the Future, Inc., Drought and Water Supply, Implications of the Massachusetts Experience in Municipal Planning (1968), for a discussion of alternative planning techniques to control demand requirements for water supply during drought periods.

171 R. HAVEMAN, THE ECONOMIC PERFORMANCE OF PUBLIC INVESTMENTS: AN EX POST EVALUATION OF WATER RESOURCE INVESTMENTS 1-126 (1972).

172 Only the St. Lawrence International Seaway charges user fees in the present inland waterway system. However, there are the barest indications that this policy may be beginning to change. A recent report issued by the Secretary of Transportation stated that the costs of federal support of the inland waterway system should be recovered by user charges "wherever possible." U.S. DEP'T OF TRANSPORTATION, NATIONAL TRANSPORTATION: TRENDS AND CHOICES (TO THE YEAR 2000) 284-85 (1977). Whether the Carter Administration will follow through on this change remains to be seen.

173 1 U.S. RAILWAY ASSOC., PRELIMINARY SYSTEM PLAN 3-4, 313-16 (1975), placed some of the responsibility for the bankruptcy of the Penn Central and six other eastern railroads on federal subsidies to the inland waterway system. The adverse effect on railroads is also an issue in the cases cited in note 166 *supra*.

174 Hanke & Davis, *supra* note 170, at 814-15, suggest that user fees should be set at a level equal to projected future operation and maintenance costs to balance incremental benefits and costs. They argue that "segment tolls" would produce the most desirable efficiency and equity effects by relocating low-valued traffic away from high-valued segments of waterways. They further suggest that "congestion tolls" would postpone the need for massive investments in expanding existing locks and dams until the lock and dam are still congested when revenues exceed operating and discounted capital costs of a new increment to capacity. *See* Lave & DeSalvo, *Congestion Tolls and the*

use the system more efficiently and consequently balance the traffic load through the system and postpone the need for expansion. Similar kinds of pricing innovations could be instituted in federal flood control, water supply, irrigation, and other water resource development projects in order to promote their economically efficient use.[175]

Economic efficiency considerations and marginal cost pricing principles have not been widely used to date in management of public enterprises in this country, but recently some state public service regulatory agencies have begun seriously to consider applying these concepts to electric utility rate design questions.[176] The experience gained from utilization of marginal cost pricing principles in electric power regulation should be equally applicable to water resource regulation, and should help to demonstrate that national economic wellbeing does not demand free inland water navigation, flood control, drainage, or water supply services from the federal government.

The second change in the present method of economic analysis which is needed to bring federal water resource development projects into line with the FWPCA objective is explicitly to take the environmental costs of these projects into account. The present analysis used to justify the desirability of a development project considers only relatively short-term economic factors.[177]

Economic Capital of a Waterway, 76 J. POLIT. ECON. 375 (1968); Hanke & Davis, *The Role of User Fees and Congestion Tolls in the Management of Inland Waterways,* 10 WATER RESOURCES BULL. 54 (American Water Resources Assoc., Feb. 1974).

175 The National Water Commission concluded that present cost-sharing and pricing policies which are incorporated in the inland waterways program, as well as federal flood control, water supply, and other water resource development activities, are creating enormous economic inefficiencies and should therefore be modified. NATIONAL WATER COMM'N, WATER POLICIES FOR THE FUTURE 494-98 (1973).

176 Opinion and Order Determining Relevance of Marginal Costs to Electric Rate Structures, N.Y. Public Service Comm'n, Opinion No. 76-15 (Aug. 10, 1976); Investigation into Electric Utility Rate Structure and Changes that Should be Made to Encourage the Conservation of Electricity, Public Utilities Comm'n of Calif., Dec. N. 85559 (Mar. 16, 1976), CCH UTIL. L. REP. § 22,325; Application of Madison Gas and Electric Co. for a "Make Whole" Increase in Elect. Rates, Public Service Comm'n of Wisc., Order No. 2-U-7423 (Aug. 8, 1974), 4 PUB. UTIL. REP. 4th 28. *See also* Huntington, *The Rapid Emergence of Marginal Cost Pricing in the Regulation of Utility Rate Structures,* 55 B.U. L.REV. 689, 749-73 (1975); Willey, *Electricity Consumption and Investment Finance in California,* in FED. RESERVE BANK OF SAN FRANCISCO, CALIFORNIA ENERGY: THE ECONOMIC FACTORS (1976).

177 Water Resources Council, Principles and Standards for Planning Water and Related Land Resources, 38 Fed. Reg. 24,778 (1973). Although these standards represent some improvement in the techniques of economic analysis used for water resource

The addition of environmental factors into the computation would effectively require a longer-term view of the project's effects on society, for an environmental cost is nothing more than a long-term economic cost. For example, the economic analysis of a federal flood control project typically does not include a cost figure representing the present value of losses which would occur if the maximum flood for which the project was designed were exceeded. Yet despite the huge federal investment in flood control structures, property losses due to floods have continued to mount.[178] This is partially due to the fact that flood control projects induce private development of "protected" flood plains; thus, when the design flood is exceeded, the damage is greater than if no flood control project had been built at all.[179] Whether these losses resulting from the interrelationship of flood control projects and development of flood plains are "economic costs" or "environmental costs" is unimportant. What is important is that this cost should be included in the original economic analysis before the project is built.

The most important environmental value which should be included in the economic analysis of development projects is the preservation alternative. Because the value of preservation is impossible to reduce to an exact dollar figure, it is simply left out.[180] The effect of this omission is often compounded by the use of unreasonably low interest rates in the analysis, which

development projects, they will continue to lead to overestimation of benefits, underestimation of costs, and failure to give proper consideration to environmental impacts. *See* Cicchetti, Benefits or Costs? An Assessment of the Water Resource Council's Proposed Principles and Standards (March 1972) (Dep't of Geography and Environmental Engineering, The Johns Hopkins Univ.).

178 *See* Flood Disaster Protection Act of 1974, Pub. L. No. 93-234, Title I, 87 Stat. 975, 42 U.S.C. § 4001 (Supp. V 1975). "Annual losses throughout the Nation from floods and mudslides are increasing at an alarming rate, largely as a result of the accelerating development of, and concentration of population in areas of flood and mudslide hazards." *Id.* at § 4002(a)(1).

179 Eisel, Wolk, & Burt, Reducing Flood Losses: An Analysis of Federal Policy (unpublished EDF mimeo, 1974). *See also* NATIONAL WATER COMM'N, *supra* note 175, at 154-61; White, Changes in Urban Occupancy of Flood Plains in the United States (1958) (Dep't of Geographical Resources, Univ. of Chicago).

180 *See* Dep't of the Army, Corps of Engineers, Civil Works Program Environmental Policies, Objectives, and Guidelines Revision, 41 Fed. Reg. 47,676 (1976). The preservation value is reflected in the Corps statement that "[w]e will make every effort to ensure that resource options are kept open for future generations." *Id.* at 47,676. However, the Corps' economic analysis techniques include no methodology for evaluating the value of preservation. *See id.* at 47,677.

further biases decisions toward development rather than preservation.[181]

In recent years, environmental management planning principles have been developed which permit planning of non-structural (*i.e.*, not involving major construction projects such as dams, levees, and channelizations) flood control, drainage, and other water resource programs that achieve many of the benefits of traditional development programs while promoting protection of water resources.[182] However, the bias toward development described above, partly because of the omission of environmental values, is also a bias against non-structural alternatives to development projects. This bias could not be eliminated simply by including environmental costs in economic analyses; it is also inherent in the statutory scheme. For example, while section 73(a) of the Water Resources Development Act of 1974[183] provides that the Corps of Engineers must give consideration to non-structural alternatives to reduce or prevent flooding, under the applicable cost-sharing formulas the federal government will pay 80 percent of the capital costs of a non-structural program but will pay 100 percent of the capital costs of structural projects. It is also unclear to what extent federal funds can be used to acquire land as part of a federal non-structural control program. Thus federal water resource development financial incentives are still skewed in favor of structural solutions.[184] Like the application of the FWPCA and

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181 Low discount rates tend to increase project benefits over the life of the project relative to costs. The general rule has been that the discount rate used by a federal agency in its economic evaluation is not subject to judicial review. Recently, however, a few courts have been willing to review these discount rates. Concerned Residents of Buckhill Falls v. Grant, 557 F.2d 29, 35-36 (3d Cir. 1976); Alabama *ex rel.* Baxley v. Corps of Engineers, 414 F. Supp. 1261, 1266, 1271-73, (N.D. Ala. 1976); Montgomery v. Ellis, 365 F. Supp. 517, 529-33 (N.D. Ala. 1973) (duty to review an arbitrary and unrealistic interest rate employed by the Soil Conservation Service, particularly when the benefit-cost ratio is near 1:1).

182 *See* S. GAGLIANO & J. VAN BEEK, ENVIRONMENTAL BASE AND MANAGEMENT STUDY — ATCHAFALAYA LOUISIANA BASIN (1975) (prepared for EPA Office of Research and Development, EPA 600/5-75-006); Gagliano & van Beek, An Environmental Approach to Multiuse Management of the Louisiana Coastal Zone (1973) (Geological Society of America); J. Clark, Rookery Bay: Ecological Constraints in Coastal Development (1974) (Conservation Foundation).

183 Pub. L. No. 93-251, 88 Stat. 12.

184 In addition to the cost-sharing disadvantage for non-structural flood control programs, the Corps of Engineers has not yet issued any regulations describing how benefits and costs of non-structural projects are to be calculated. This additional

of other federal protection programs to federal water resource development projects, then, changing the methods of economic analysis of such federal water projects cannot altogether resolve the conflict between these projects and the long-term objective of the FWPCA.

The implementation of the changes in methods of economic analysis suggested above, however, would be a major step towards reconciliation of this conflict.[185] Some of these changes could be implemented by the federal agencies administering water resource development programs. Their complete implementation, however, would require congressional action, which would have to overcome the traditional support for "pork barrel" projects which bring jobs and other economic benefits to the home districts of members of Congress. But if the long-term "integrity of the nation's waters" objective of the FWPCA is to be taken seriously, the perpetuation of a system of economic analysis which conceals from the beneficiaries the economic cost and from the country the real social cost of water resource development projects can no longer be justified.

IV. Summary and Conclusion

The FWPCA is in many ways a farsighted piece of legislation. The Act provides overall direction to the national water pollution control effort by specifying the ultimate objective of restoring and maintaining the chemical, physical, and biological integrity of the nation's waters, and by setting out the goals of eliminating the discharge of pollutants by 1985 and of achieving "fishable, swimmable" water quality throughout the nation by 1983. The Act also provides means to reach those goals by establishing national policies to mount a research and demonstration effort, eliminate toxic pollutants, initiate areawide planning and finance the construction of municipal wastewater treatment facilities.

In order to demonstrate the seriousness of the national

obstacle will make it even more difficult to implement § 73(a) of the Water Resources Development Act, 33 U.S.C. § 701b-11(a) (Supp. V 1975).

185 Even if the changes suggested here resulted in a recommendation not to undertake a specific project, Congress could still decide that it is in the national interest to build it anyway. However, the decisionmakers would at least be aware of the true environmental and economic benefits and costs of the project.

commitment to clean water and to speed up water pollution control efforts, Congress included in the FWPCA interim effluent control standards to be achieved by July, 1977 and authorization for an $18 billion construction grants program for fiscal years 1973, 1974 and 1975. However, at the same time, the tight time schedule for achieving the effluent control standards and the rush to fund the mammoth construction grants program has undermined the visionary objective and goals of the FWPCA.

Although its primary intent was to get the country moving towards the FWPCA goals, the effect of the construction grants program has been to make national water pollution control policy do two inconsistent things at once: to build treatment plants in order to meet the 1977 interim effluent standards deadline, while at the same time encouraging the development and use of advanced techniques that could eliminate, rather than just reduce, water pollutant discharges. Because it does produce some immediate impact on water pollution and is highly visible as a stimulus to the economy and a source of jobs during a period of high unemployment, the short-term effort of the construction grants program has engulfed the longer-range concerns of the FWPCA.

Undoubtedly Congress, with its special sensitivity to economic problems such as recession and the unemployment rate, must bear a large share of the responsibility for this imbalance. However, the EPA has been in a position to affect the balance substantially and to help reconcile the conflict between the short- and the long-term concerns of the FWPCA. The necessary language is already in the Act's provisions; the EPA could interpret and implement these provisions in such a way as to aid significantly in correcting the imbalance. But the EPA has not done so. In fact, it has aggravated the conflict unnecessarily by its actions in delaying the establishment of standards for toxic pollutants, delaying the establishment of section 208 planning processes, and underbudgeting its research and demonstration program which, unfortunately, has focused on short-term research issues concerning the achievement of 1977 interim standards.

"To restore and maintain the . . . integrity of the nation's

waters"[186] is a worthy principle to guide national water pollution control policy. In order to facilitate implementation of that objective, the EPA should give more impetus to the research and demonstration effort, toxic pollutant control, and areawide planning, while attempting to moderate as much as possible the present overemphasis on the construction grants program.

The same basic conflict between short- and long-term concerns that is inherent in the structure of the FWPCA is found again in federal water resource development policy. Federal water resource development programs are primarily concerned with the immediate economic benefits which result from development projects — benefits such as increased flood control protection, electric power, and agricultural activity. These short-term-oriented projects, however, almost always degrade water resources directly or indirectly, and thus conflict with the FWPCA objective. Again, Congress must accept the lion's share of the responsibility for putting too much emphasis on obtaining the economic benefits which flow from water resource development, for funding these projects even when they are clearly economically inefficient, and for not explicitly making the FWPCA objective equally applicable to federal water resource development policy. Although Congress has established a number of programs to protect water resources, notably wetlands, these programs cannot effectively counterbalance the destruction of water resources by development projects without significant increases in the funding of the programs — increases that Congress seems unwilling to provide.

The EPA bears some of the responsibility for this conflict in overall water resource policy as well. Congress has left the EPA's authority ambiguous, but the EPA has refused to interpret this ambiguous language so as to influence the planning of development projects which affect water quality. An aggressive attempt to use the EPA's authority to require federal development projects to meet the requirements of section 208 plans and other FWPCA requirements through section 313 would go a long way to reconcile this basic conflict in overall water resource policy. So far, the only provision of the FWPCA which

186 Section 101(a), 33 U.S.C. § 1251(a) (Supp. V 1975).

has been effectively used to influence decisions affecting water resources is section 404, but this represents only a start toward giving adequate recognition to long-term concerns.

Other federal agencies administering water resource development programs have also had the opportunity to help reconcile the basic conflict between development and the FWPCA objective by adopting methods of economic analysis that take environmental values directly into account. However, only Congress has the authority to require the institution of pricing policies for federal water resource projects which would result in projects being built only when economically and environmentally efficient to do so. This would minimize the adverse effects of these projects on water quality and be a welcome change from the present policy of effectively subsidizing the degradation of water quality.

The present imbalance in both FWPCA water pollution control policy and overall national water resource policy stems, therefore, from an overemphasis on short-term results and economic benefits, coupled with inadequate consideration of the long-term costs to society. Municipal secondary treatment plants and other treatment facilities built under the construction grants program may have a relatively rapid beneficial impact on water quality. They may at the same time, however, create other long-term secondary costs or, by their likely incompatability with advanced wastewater recycling techniques, make such techniques so expensive as to be economically infeasible. These facilities may make it equally difficult and expensive to control the discharge of toxic pollutants that are determined at some later date to have an adverse impact on human health. The expenditure of funds now in order to avoid incompatability with advanced techniques and to understand and plan for adverse water quality effects would avoid the imposition of substantial social costs in the future.

Similarly, water resource development projects, although they provide substantial, if subsidized, economic benefits, are saddling the country with long-term water quality degradation that, again, may be effectively impossible to correct later. These long-term costs to society will have to be paid eventually, either by devoting to them the massive amount of economic resources

necessary to rectify past mistakes, or by having to live with the results of those mistakes.

It has long been a fundamental ethical tradition of Western civilization that each generation adds to the store of social capital in the form of knowledge, ideas, science, technology, and economic and social wealth before passing the increased stock on to the next generation. The quality of water resources is an important component of that social capital, but the social costs involved in failing to resolve the basic conflicts in water resource policy are so great as to call the continuing validity of that fundamental tradition into serious question. Vigorous respect for the FWPCA objective in the planning and management of all federal water resource activities is essential if the nation is to return to the tradition of enhancing, not depleting, its social capital.

THERMAL EFFICIENCY AND TAXES: THE RESIDENTIAL ENERGY CONSERVATION TAX CREDIT

SHERRY V. HYATT*

National concern over the growing American dependence on foreign oil has sparked interest in efforts to increase residential energy conservation through government incentives. Many officials, including, most recently, President Carter in his energy address, have considered utilizing tax credits because they are viewed as a popular and effective means of stimulating private conservation decisions. In this article, Ms. Hyatt argues that a residential energy conservation tax credit, as a budgetary item, would adversely affect the equity and administration of the tax system and would offer no assurance of significant energy savings in relation to the amount of lost tax revenues. Moreover, uncertainties about the effectiveness of any conservation incentive scheme make an immediate large-scale subsidy program for energy conservation investments in existing homes unwise. Ms. Hyatt suggests that gradual expansion of pilot programs that incorporate accumulated experience into policy decisions would reduce waste and increase long-term energy savings. Although she recognizes that direct assistance would share some of the problems of tax credits, Ms. Hyatt sees greater potential in the direct grant for influencing consumers' decisions to conserve. Direct assistance could be both more efficient and easier to administer than tax credits for residential energy conservation.

Introduction

President Carter's recent proposal for a residential energy conservation tax credit embodies a recognition that the nation can reduce the cost of energy consumption by eliminating energy waste.

> Conservation is the quickest, cheapest, most practical source of energy. Conservation is the only way we can buy a barrel of oil for a few dollars. It costs about $13 to waste it.[1]

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1 Wash. Post, April 19, 1977, at A-14, col. 4. President Carter has recommended a

Yet the American consumer will not appreciate the value of energy as a commodity until the costs and benefits of its consumption become clear to him. Government assistance can alleviate the cost of self-education about energy conservation by disseminating information and providing an incentive for the educational effort. Government data can supplement the perceptions of economic advantage that motivate an individual to make an energy-conserving capital investment. Government aid can mitigate the large initial costs that sometimes discourage individuals from undertaking conservation projects. If energy savings over the long run will make the initial investment worthwhile, a government subsidy could bridge the temporal gap between the present costs and the future benefits. Thus, government incentives can encourage the consumer to realize the savings in energy that are available at reasonable cost.

This article explores the potential of government subsidies for individual investment in residential energy conservation. In Section I, the rationale for encouraging installation of energy-conserving materials and devices into existing homes is developed. Section II examines the problems of assuring adequate participation and efficiency in any government subsidy program directed at residential energy conservation. Section III discusses the feasibility of a tax credit as a means of encouraging individual consumers to make energy-conserving investments. Finally, Section IV analyzes direct grants as an alternative to the residential energy conservation tax credit. The article concludes that tax credits would be an inferior response to the need to reduce domestic energy consumption. This position is justified both by the greater efficiency of direct expenditures and by the harmful effects of tax credits on tax equity and administration.

I. The Rationale for Residential Energy Conservation

During the past 30 years, energy consumption in the United States has significantly outpaced domestic production. Per capita consumption doubled between 1940 and 1974.[2] This con-

tax credit of 25 percent of the first $800 and 15 percent of the next $1400 invested in approved conservation methods for existing homes. *See* N.Y. Times, April 21, 1977, at 46, col. 3.

2 U.S. Bureau of the Census, Dep't of Commerce, Statistical Abstract of the United States 531 (1975).

sumption has been stimulated both by increasing income and by relatively low energy prices. While consumption has increased at an annual rate of 4.5 percent since 1965, the level of domestic production has remained constant since 1970.[3] The United States has not experienced energy self-sufficiency since 1950,[4] and, despite the fanfare surrounding Project Independence,[5] the gap between consumption and domestic production continues to grow.

This gap could have been narrowed, although not completely eliminated, from both the production and consumption ends if the market price of energy had been allowed to fluctuate freely. As the price increased, suppliers would have had an incentive to develop previously unprofitable energy sources. Consumers would have chosen to forego certain uses of energy the perceived benefits of which did not equal the actual economic costs. However, this market adjustment approach has not been utilized,[6] because it is politically unpopular and burdensome to lower-income groups.[7]

Most economists agree that some combination of an increase in the domestic supply of energy sources, a reduction in consumption, and the conversion from oil and natural gas to other energy sources is required to reduce dependence on foreign energy.[8] Confusion regarding which of these measures should have priority

> stems partly from the fact that we are asking for an energy policy that will lower energy costs and meet future energy demand, and at the same time reduce unemployment, stem inflation, redistribute income to the poor, and strengthen the balance of payments.[9]

3 ENERGY POLICY PROJECT, FORD FOUNDATION, EXPLORING ENERGY CHOICES: A PRELIMINARY REPORT 1 (1974).

4 *Middle and Long-Term Energy Policies and Alternatives: Hearings Before the House Subcom. on Energy and Power of the House Comm. on Interstate and Foreign Commerce, Part I,* 94th Cong., 2d Sess. 195 (1976) (statement of Roger F. Naill).

5 *See* [1974] 27 EN. USERS REP. (BNA) A-34.

6 *See* ENERGY POLICY PROJECT, FORD FOUNDATION, *supra* note 3, at 8-9.

7 *See* [1975] 94 EN. USERS REP. (BNA) A-12. Removal of all domestic price controls on oil, for example, could raise its price by 33 percent. This price increase would be extremely unpopular with consumers, might stifle economic growth by reintroducing a rapid rate of inflation, and would increase the already onerous burden of fuel costs on the poor. *See* TIME, April 4, 1977, at 64.

8 *See, e.g., The Energy Crisis and Proposed Solutions: Panel Discussions Before the House Comm. on Ways and Means, Part I,* 94th Cong., 1st Sess. 1-55 (1975) (statements of Otto Eckstein, Edward Mitchell, Arthur Okun, John Sawhill, and Charles Schultze).

9 *Id.* 6 (statement of Edward Mitchell).

The development of new supplies is an expensive proposition.[10] Costs of producing traditional sources of energy — oil, gas, and electricity — will continue to rise above the general inflation rate,[11] and future scarcities are projected.[12] The conversion to other energy sources presents an even greater problem because no inexpensive alternatives are available.[13] It is clear that the effort to increase available energy supplies would be most effective if pursued in conjunction with a reduction in the growth rate of demand for energy.[14]

Some sectors of the economy offer particularly attractive opportunities for reduction in energy demand. Recently, proponents of energy conservation have focused upon energy that is wasted[15] in the heating and cooling of residential buildings.[16] The heating and cooling of these buildings presently accounts for approximately thirteen percent of the total United States annual energy consumption.[17] In addition, the parallel energy

10 If energy production is to continue growing at present rates, the increased capital requirements alone would be considerable. The Energy Policy Project has estimated that the energy industries would require $1.75 billion between 1975 and 2000, 25 percent of projected total national investment in 1985, to provide new sources of energy to support current growth rates. *See* ENERGY POLICY PROJECT, FORD FOUNDATION, A TIME TO CHOOSE: AMERICA'S ENERGY FUTURE 36 (1974).

11 The recent Mitre report for the U.S. Energy Research and Development Administration predicted that oil, gas, and electricity prices will increase by 10 percent a year for the foreseeable future. *See* Maize, *Government Research and Development: A Look at the Sunny Side*, 8 ENVT'L ACT. 7 (1977). Energy conservation surveys also assume real price increases above the general rate of inflation. *See* J. Hildenbrand, Design and Evaluation Criteria for Energy Conservation in New Buildings (Feb. 1974) (National Bureau of Standards Report Prepared for National Conference of States on Building Codes and Standards, NBSIR 74-452), *cited in* S. PETERSEN, RETROFITTING EXISTING HOUSING FOR ENERGY CONSERVATION: AN ECONOMIC ANALYSIS 7 (December 1974) (National Bureau of Standards Building Science Series No. 64).

12 S. FREEMAN, ENERGY: THE NEW ERA 21 (1974).

13 *Middle and Long-Term Energy Policies and Alternatives Hearings, supra* note 4, at 39 (statement of Earl Cook).

14 ENERGY POLICY PROJECT, FORD FOUNDATION, *supra* note 10, at 2.

15 As used in this article, "waste" occurs when mechanical work could have been done with less energy without incurring higher total social or economic costs.

16 Residential units consumed about 22 percent of the fuel and electricity produced in the United States in 1973. *See* ENERGY POLICY PROJECT, FORD FOUNDATION, *supra* note 10, at 46.

17 In 1970, residential space heating represented about 12.5 percent of national energy use, while air conditioning constituted 0.8 percent. *See* Arthur D. Little Co., Residential and Commercial Energy Consumption (August 1974). Much of this use represented oil and gas consumption. Together they made up 57.8 percent of residential energy use in 1970. *See* S. DOLE, ENERGY USE AND CONSERVATION IN THE RESIDENTIAL SECTOR: A REGIONAL ANALYSIS xiii (June 1975) (Rand Corp. Report No. R-1641-NSF).

demand for the heating of water used in residences accounts for an additional three to four percent.[18] In this major sector of energy demand, inefficiencies cause significant waste. Indeed, it is estimated that 30 to 40 percent of the energy consumed in the heating and cooling of buildings is wasted.[19] This waste is attributable to inadequate construction, poor operation and maintenance, inefficient equipment, and unnecessary lighting, heating, and cooling loads.[20] Thus, excellent opportunities exist for significant energy conservation.

The effort to attain energy conservation could involve the imposition of more demanding thermal efficiency standards for new construction and the encouragement of retrofitting[21] existing structure through government subsidy or tax incentive. Increasing energy conservation through thermal efficiency standards seems particularly promising. In the past, when energy was relatively inexpensive, building design emphasized convenience, visual attractiveness, and initial cost minimization over energy efficiency in operating costs. As the price of energy rises, use efficiency will warrant greater consideration. Any increased attention will be rewarded because major improvements in thermal integrity[22] can be made through basic design changes.[23] Furthermore, energy conservation techniques in-

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18 Water heating in 1970 accounted for 3.7 percent of national energy consumption. *See* Arthur D. Little Co., Residential and Commercial Energy Consumption (August 1974).

19 *See* HOUSE COMM. ON SCIENCE AND ASTRONAUTICS, CONSERVATION AND EFFICIENT USE OF ENERGY, H. R. REP. No. 1634, 93d Cong., 2d Sess. 27 (1974).

20 *Id.* 40.

21 Retrofitting is defined as the "installation of energy saving devices which improve the thermal efficiency of the (existing) residence." FEDERAL ENERGY ADMINISTRATION, PROJECT INDEPENDENCE REPORT 164 (1974). Retrofitting includes installation of storm windows and doors, improved sealing and caulking, addition of insulation to walls, ceilings or roofs, and improvements in heating, ventilation, and air conditioning systems.

22 Thermal integrity is the ability of a home to prevent loss of heat produced by the internal power plant and prevent infiltration of outside air into the home. The average home suffers about 60 percent heat loss during the winter — 75 million BTUs out of 125 million total consumption per unit. *See* ENERGY POLICY PROJECT, FORD FOUNDATION, *supra* note 10, at 433.

23 For example, energy demand reduction can be accomplished through a reduction in the surface to volume ratio of buildings. Square multi-storied buildings are more energy-efficient than rectangular single-story buildings. Non-detached buildings such as row townhouses use less energy than single family detached homes. *See* Snell, Acherbach, and Petersen, *Energy Conservation in New Housing Design*, 192 SCIENCE 1305 (1976).

corporated into the design of a building cost less than energy-saving features added after construction is completed because interior surface areas are more accessible, labor can be more efficiently allocated, and materials are often available at a builder's discount.[24]

The rapidity of the impact of the stricter thermal efficiency standards can be appreciated by reference to the estimated amount of construction for the next ten years. The annual growth of residential and commercial floor space between 1975 and 1985 is generally projected at 2 percent and 4 percent respectively. The corresponding construction rates, which include the replacement of old stock, are projected at 3 percent and 5 percent annually.[25] Therefore, over 30 percent of residential floor space and 40 percent of commercial floor space in use in 1985 will have been constructed after 1974.[26] The potential energy savings resulting from more demanding thermal efficiency standards is clear.

However, whether or not thermal efficiency standards for new construction are enacted, retrofitting is the only means of saving energy in existing structures. These structures will still constitute 60 to 70 percent of the total floor space in 1985.[27] Furthermore, the renovation of existing buildings will yield the most immediate energy savings. For these reasons, a policy of encouraging the retrofitting of existing buildings has gained favor as a means of combating the energy problem.

II. Evaluating Government Subsidies for Residential Energy Conservation

The government faces at least three problems in any attempt to encourage the retrofitting of existing homes. First, the homeowner must be convinced that it is worthwhile to make a

24 *See* S. Petersen, *supra* note 11, at 7.

25 *See* Federal Energy Administration, Draft Environmental Impact Statement of Energy Independence Act of 1975 and Related Tax Proposals 12-1 (March 1975) (DES 75-2).

26 *See Emergency Housing and Housing/Energy: Hearings Before the Senate Comm. on Banking, Housing, and Urban Affairs*, 94th Cong., 1st Sess. 30 (1975) (statement of Roger W. Sant) [hereinafter cited as *Housing/Energy Hearings*].

27 This statement follows directly from the estimate of post-1974 construction cited above. *See* note 26 *supra.*

substantial capital investment.[28] Insulation alone may cost as much as $500 for a 1200 square foot single-family house.[29] The high initial expenditure discourages many consumers from undertaking thermal efficiency projects.[30] In order to ensure that the consumer recovers his full investment in the form of future energy savings, the government incentive should encourage energy conservation projects that are cost-effective to the individual.

Second, the threshold costs of individual initiative must be overcome. Informing oneself of conservation opportunities and obtaining the expertise to select and install the proper mix of devices is costly.[31] The subsidy should contribute to the individual's willingness to pay these costs and become knowledgeable about energy conservation.

Third, the portion of the subsidy remaining after the threshold costs have been covered should reflect accurately such external benefits to society as the decreased dependence upon foreign oil resulting from energy savings. Any subsidy with total costs exceeding the price of the energy saved and the increment of external social benefits is wasteful, because it ignores the market pricing signal that using energy is more valuable than saving it and absorbs government revenues that could be used more effectively in other programs.[32]

The ability of the residential energy conservation incentive to meet these concerns will be examined further in three areas: the ultimate cost-effectiveness of the investment to the consumer, the probability that the consumer will participate in the program, and the total revenues lost by the government expenditure weighed against the social benefits of conserving energy.

A. *Cost-effectiveness*

An investment is cost-effective to the individual if, over its life, it produces energy savings the discounted value of which

28 Normal market forces are not producing a sufficient rate of investment in retrofitting existing homes for energy conservation to gain the potential energy benefits. *See* S. REP. No. 824, 94th Cong., 2d Sess. 7 (1976).

29 In 1975, 6 inches of ceiling insulation for a home with 1200 sq. ft. of living area cost the consumer $436. *See* S. DOLE, *supra* note 17, at 97.

30 Poor families, in particular, lack the capital to make the initial investment. *See* ENERGY POLICY PROJECT, FORD FOUNDATION, *supra* note 10, at 121.

31 *See* text accompanying notes 65-72 *infra.*

32 *See* notes 76 and 88 *infra.*

exceeds the total investment cost.[33] For example, an investment in attic insulation will be cost-effective if the present value of the energy saved over the life of the residence is greater than the cost of insulation. Similarly, an annual tune-up of a furnace will be cost-effective if the value of the energy saved during a particular year exceeds the cost of the tune-up for that year.

The cost-effectiveness of residential energy conservation expenditures is highly dependent upon a number of variables the impact of which is difficult to ascertain. These variables include the level of energy prices, the period of time over which energy savings will be computed, the actual objects of the investment, the present thermal integrity of the residences, and the role of anti-fraud provisions.

The first variable, the level of energy prices, affects the value of energy savings for particular investments and the length of time necessary to recover the cost of the investment.[34] Abrupt increases in energy prices can render a previous expenditure suboptimal.[35] Furthermore, the relative prices of the different energy sources may vary, upsetting previous calculations.[36]

33 Individual consumers can use the cost-effectiveness measure to determine energy-efficient conservation investments. Economic cost-effectiveness means investment only to the point where marginal cost of a particular investment equals marginal present value dollar savings over its life. If dollar savings accurately reflect energy savings, then the most cost-effective investment would be the most energy-efficient one. Consumers could then choose from a range of projects having an implicit rate of return greater than alternative uses of his funds. *See* S. PETERSEN, *supra* note 11, at 9.

34 *See id.* 4, 30-37. The strength of the relationship between energy prices and energy savings will depend upon the extent to which government permits increases in the world price of oil to be reflected in higher domestic prices for petroleum products. Artificially low prices will undervalue the savings and encourage underinvestment in conservation. *Id.* 41. Of course, energy scarcity induced by low prices may replace price increases as an incentive to conserve if the individual consumer feels the effects of the shortage. But energy costs represent such a small percentage of some families' incomes that energy prices might have to rise enormously before the need to conserve became noticeable. In the 1972-73 Washington Center for Metropolitan Studies survey, well-off homeowners, with an average income of $24,500, spent only 4.1 percent of that income on energy. *See* ENERGY POLICY PROJECT, FORD FOUNDATION, *supra* note 10, at 118.

35 The Peterson study provides numerous examples of this effect. An increase in the price of energy from 30 to 45 cents per 100,000 BTUs can make 11" width insulation desirable where 9" width insulation was previously suitable. *See* S. PETERSEN, *supra* note 11, at 30-37.

36 Deregulation of wellhead prices for natural gas sold in the interstate market, for example, could change relative cost calculations because it would eliminate low-priced gas and the residential use patterns that developed as a consequence. *See* M.I.T. ENERGY LABORATORY POLICY STUDY GROUP, ENERGY SELF-SUFFICIENCY: AN ECONOMIC EVALUATION 28-31 (1974) (American Enterprise Institute National Energy Study No. 3). Refusal by natural gas pipeline companies to extend service to new housing devel-

While increasing energy prices can be expected with some degree of confidence, the pattern of increases cannot be easily predicted because of the dependence of crude oil prices upon foreign political decisions.[37]

Another important variable is the period of time over which the cost-effectiveness of the investment is to be calculated. An investment that may be cost-effective over its life may not be cost-effective over a shorter period more relevant to the homeowner, such as the term of his ownership. Attempts to capitalize the value of the investment into the selling price of the house may be unsuccessful because future energy savings resulting from the investment may be difficult to quantify. Some analysts have attempted to finesse this problem of defining a payback period by establishing an arbitrary cutoff of five years.[38] Such a restriction may skew the optimal mix of investments.[39]

The cost-effectiveness of any government subsidy also depends upon the objects of the investment. This computation is complicated by the great variety of options, the allocation of funds among these options, and regional differences affecting the desirability of each option. First, a large number of opportunities for residential energy conservation investments related to space heating are available within present technology. A homeowner may add insulation, in a variety of widths, to floors, walls or ceilings, install storm doors or windows, weatherproof

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opments in some areas has already induced a shift toward higher-cost electric resistance heating, which imposes different insulation requirements. *See* Snell, Acherbach, & Petersen, *supra* note 23, at 1307.

37 Recent Arab oil pricing policies have led to great uncertainties about future price patterns. *See generally* BUSINESS WEEK, November 15, 1976, at 142. Domestic price interrelationships between natural gas, oil, and electricity are also difficult to predict. *See* S. PETERSEN, *supra* note 11, at 19. While the Petersen study suggests that the long-term real increase in energy prices will be 1 percent per year for the next 20 years, the study does not predict how the increases will be distributed over time. *See id.* If the homeowner sells his house before the long-term economic trend is fully manifested, he may over- or under-invest in energy conservation measures.

38 *See* S. DOLE, *supra* note 17, at 105.

39 Dole suggests that many families move after remaining in a given residence only five years and that they would not view a payout period of longer than five years as cost-effective. He reaches no conclusion as to the actual cost-effectiveness of improving the thermal integrity of existing homes under this standard. *See id.* 105-07. But other studies assume that the payout period could be much longer and that many investments would be cost-effective under this view. *See, e.g.*, S. PETERSEN, *supra* note 11, at 26; FEDERAL ENERGY ADMINISTRATION, *supra* note 10, at 165.

exterior surfaces, add double glazing or thermopane windows,[40] cover exposed ducts,[41] adjust and maintain furnaces and filters, and add electric ignitors to furnaces.[42] Longer-range possibilities for retrofitting may involve the substitution of materials or replacement of whole heating systems with specially designed heat pumps or solar energy units.[43]

Second, expending all available funds on one particular improvement probably will not be as cost-effective as spending an equal amount on a variety of measures.[44] Funds invested in a single device reach diminishing marginal returns in energy savings more quickly than the same outlay for a portfolio of devices.[45]

Third, regional differences in energy prices, in the costs of retrofit materials, and in the number of days that buildings require heating alter the composition of the best mix of expenditures that a particular homeowner could undertake.[46] Elaborate computer simulations would be necessary to weigh all of the relevant variables, even in a simple static analysis.[47] Moreover, accounting for possible changes in these variables[48]

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40 Initial costs for double glazing and thermopane windows for single-family detached houses in 1974 were $571 and $1210, respectively. *See* S. DOLE, *supra* note 17, at 182.

41 The Petersen study examines duct wrap for insulating heating and cooling ducts in unheated areas. Unfaced glass fiber duct wrap cost $.15 per two inches in 1974. *See* S. PETERSEN, *supra* note 11, at 28.

42 Replacing gas pilot lights in existing gas furnaces with electric ignition would have achieved a fuel savings of 6 percent of the energy used in gas heated homes. Field conversion of these systems would cost the consumer between $65 and $70 in 1975. *See* S. DOLE, *supra* note 17, at 96.

43 Solar energy supplemental units and heat pump replacements may be two future energy conservation measures that could be included within a government assistance program. *See id.* 88.

44 This argument assumes that there is a reasonable range of investments to choose from in each budgetary bracket so that the individual need spend no more than what is necessary. The Petersen study finds this condition to be satisfied to a large degree by the presently available options analyzed in its report. *See* S. PETERSEN, *supra* note 11, at 44. However, some difficulties still exist at certain transition budgets that are faced with "lumpy" increases in necessary expenditures for a desired level of conservation. *See* note 51 *infra.*

45 *See* S. PETERSEN, *supra* note 11, at 9, 11.

46 *See id.* 11-12.

47 The Petersen study represents the most thorough treatment of variables in residential energy conservation to date. However, even its analysis does not account for a wide variety of climatic and structural conditions. *See id.* 41.

48 For discussion of one such change, *see* the analysis of sector inflation, note 77 *infra.*

in an attempt to avoid premature obsolescence of the investment mix involves imponderables that even a computer model could not handle. Yet because of the likelihood of a narrow differential in many cases between costs and expected savings, at least in the short and medium run,[49] such region-by-region cost computations appear necessary.

A further consideration in the cost-benefit calculus is the present thermal integrity of the residence. This variable precludes the utilization of simple distribution subsidy schemes such as making equal payments to taxpayers in the same income bracket or basing the payment on the square footage of the residence. The making of equal payments to taxpayers in the same income bracket would ignore the fact that, because of variations in thermal integrity among residences, certain plateaus in benefits may be reached earlier in energy conservation expenditures for some individuals than for others in the same income bracket.[50] With this disparity the cost-benefit calculus changes because the optimal investment for owners of less energy-efficient homes will involve a larger initial outlay than for other homeowners. Furthermore, the larger investment may be "lumpy"[51] in nature; a homeowner usually would not install a single storm window or door and then add others as they became cost-effective. Any government program that does not account for this variation in efficiency of initial investment will expend money on individuals whose energy savings return on their investment would be relatively low.

49 The Dole study suggests the narrow difference between estimated costs and savings by its refusal to make a general prediction as to cost-effectiveness of retrofitting existing homes. *See* S. DOLE, *supra* note 17, at 107. The long payout periods required for some of the investments examined in the Petersen study support this conclusion. *See* S. PETERSEN, *supra* note 11, at 30-37.

50 This plateau effect is a barrier to achieving the economic objective of equalization of each individual homeowner's ratio between marginal cost and marginal savings. This ratio is a typical efficiency condition for problems of consumer choice. *See* E. MANSFIELD, MICROECONOMICS 431 (2d ed. 1975). The information problems related to energy conservation, however, make it difficult for the government to discover who has already made efficient expenditures. *See* S. PETERSEN, *supra* note 11, at 3. Ignoring the problem has high costs in waste of government resources.

51 "Lumpiness" in an investment opportunity represents an inability to make less than a certain minimum payment before the benefits of the investment can be gathered. Petersen gives the example of insulation, which comes in a limited number of preformed sizes and shapes and may not conform to a particular home's exact requirement for insulation size in a continuous budgetary analysis. *See* S. PETERSEN, *supra* note 11, at 16.

The disparity in thermal integrity among residences also makes the distribution scheme of payments based on square footage undesirable. Wealthy homeowners would tend to receive more money because they live in larger homes.[52] Yet there is a strong correlation between the income level of the household and the amount of insulation already present.[53] This relationship reduces the importance of the difference in square footage. More than 50 percent of the single-family homes of the poor have no isulation, compared to only 5 percent of the homes of the well-to-do.[54] A similar correlation has been found for storm windows.[55] As a result, the poor use far more units of energy per square foot of living space, making the difference in total energy use between the rich and the poor less than the relative size of homes would predict.[56] Rather than using either of the simple distribution schemes discussed above, expenditures should be targeted to those groups that could most effectively use the money — the poor and lower middle class homeowners.

Finally, anti-fraud provisions of the rules governing the subsidies would affect the expenditure mix. Certain kinds of cost-effective expenditures, such as rugs and curtains which reduce heat loss, would have to be disallowed because of their potential for abuse. Legislators may decide that certain technologies are too experimental or costly for effective administrative control of the public subsidy and exclude them from eligibility.[57] Disqualification of certain energy conservation techniques is a

52 Wealthy families and individuals tend to own houses with larger numbers of rooms than less well-off individuals. While 77 percent of all poor families (with average incomes of $2500) live in homes of five rooms or fewer, only 26 percent of the well-off (with average incomes of $24,500) live in an equivalent amount of space. *See* Washington Center for Metropolitan Studies Lifestyle and Energy Surveys, 1972-73, *cited in* ENERGY POLICY PROJECT, FORD FOUNDATION, *supra* note 10, at 119.

53 *Id.* 120.

54 *Id.*

55 *Id.*

56 *Id.* 121.

57 This type of disallowance was the fate of the oil unit retention head burners for furnaces and heat pumps. In June, 1976, Senator Brooke introduced an amendment to the Senate Finance Committee amendment of H.R. 10612, the proposed Tax Reform Act of 1976, that would have included the retention head burners under the definition of qualified expenditures for the tax credit in the Committee amendment. *See* 122 CONG. REC. S10,281 (daily ed. June 23, 1976). The Finance Committee deleted the amendment in markup. Congress felt that the devices were too inadequately developed for promulgation of cost estimates. *See* 122 CONG. REC. S13,218 (daily ed. Aug. 3, 1976).

possibility that must be taken into account in determining how to encourage the most cost-beneficial mix of energy conservation investments. Given these unknowns, it is not surprising that present studies have been inconclusive on the issue of whether particular energy-saving investments in the home are likely to be cost-effective. A Princeton survey noted that both residents and building professionals lack reliable assessments for payoffs on any but the most elementary retrofit strategies.[58] A Rand Corporation study set out guidelines of a five-year payout period and a discount rate of 10 percent per year for future returns. Yet the author was unwilling to predict whether improving the thermal integrity of existing units would fall within the 3.8:1 ratio of investment cost to annual savings that he developed as the perceived outcome to induce investment.[59] The Petersen computer study indicated that certain mixes of insulation expenditures would be cost-effective,[60] but the long periods of time required for cost recovery for some of these mixes makes the judgment of cost-effectiveness subject to the uncertainties about proper allowance for payback period.[61]

The existence of such significant uncertainties in the ultimate value of residential energy conservation investments to the consumer makes any immediate large-scale effort to subsidize retrofit investments imprudent. Experience gathered from

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58 R. SOGOLOW, D. HARRJE, L. MAYER, & C. SELIGMAN, ENERGY CONSERVATION IN HOUSING: WORK IN PROGRESS AND PLANS FOR 1975-76, at 6 (April 1975) (Center for Environmental Studies, Princeton University, NSF/RANN Grant No. SIA72-03516-A02).

59 The Rand study derived the cost/savings ratio from a standard investment formula where the maximum capital expenditure-to-annual savings ratio for a given discount rate and payback period on the investment is:

$$C/A = \frac{(1 + d)^n - 1}{d(1 + d)^n}$$

and C= capital expenditure (assumed to be in first year)
A= annual savings (assumed to be constant)
d= market discount rate on alternative investments
n= number of years required for recoupment of original investment by energy savings.

The author refused to estimate the general cost-effectiveness of retrofitting because the special complexities of climate and quality of existing construction required consideration of cost-effectiveness on an individual basis. *See* S. DOLE, *supra* note 17, at 96, 104.

60 *See* S. PETERSEN, *supra* note 11 at 30-37.

61 One set of alternatives requires fifteen to twenty years for recovery of the cost of added insulation to attic and floors, respectively. *See id.* 31. Petersen is willing to accept a payback period as long as twenty years. *Id.* 21.

small-scale experiments currently in operation should be analyzed in conjunction with the results from programs targeted toward specific groups.[62] This information is an essential prerequisite for more ambitious retrofit programs.

B. *Probability of Participation*

Unlike standards for new construction, which can be mandated by HUD and private builder associations,[63] the retrofitting of existing homes requires the cooperation of individual consumers willing to undertake the investment with government assistance.[64] In order to encourage energy conservation, any government assistance program must be able to overcome whatever barriers exist to consumer awareness and willingness to take part in the desired activity.

An initial difficulty is consumer inertia, the reluctance to assume the significant cost of informing oneself about the opportunities for energy savings and government assistance. To some extent, rising energy prices make the consumer more sensitive to energy consumption, but they do not guarantee the consideration of an energy conservation investment.[65] That

62 The Federal Energy Administration's Project Conserve has had considerable success in educational efforts specifically directed at middle-income homeowners. *See* text accompanying note 73 *infra.* Although only a pilot program, Project Conserve could be usefully expanded. *See The Energy Crisis and Proposed Solutions Panel Discussions, Part I, supra* note 8, at 15, 146 (statements of Task Force No. 4 and Eric Zausner). The Energy Conservation in Existing Buildings Act also sets up a limited but specifically-targeted program that could increase energy conservation. *See* text accompanying notes 169-76 *infra.*

63 The Council of American Builders has developed a special group of energy conservation standards as an adjunct to regular building codes. The Council asserts that by 1978, 90 percent of the jurisdictions in the country will have adopted the standards. *See* 124 CONG. REC. S9399 (daily ed. June 15, 1976) (statement of Senator Garn). The Department of Housing and Urban Development is strengthening its insulation standards for houses financed with FHA and VA loans. *See Housing/Energy Hearings, supra* note 16, at 76.

64 Retrofitting of existing homes with energy conservation devices must be undertaken on a voluntary basis because enforcement of a mandatory program on private homeowners would be highly impractical. *See* S. DOLE, *supra* note 17, at 112.

65 The consumer may simply engage in short-term or minor conservation measures, such as turning down the thermostat or shutting off unused lights. Educational efforts are required to orient a wide variety of energy consumers toward energy conservation investments. Steps must be taken to meet the diverse informational needs of the enormous array of energy-consuming decision-makers. *See Energy Conservation: Joint Hearing on Title I of H.R. 14205 and Title IV of Senate Amendments to H.R. 12169 Before the Subcomm. on Energy and Power of the House Comm. on Interstate and Foreign Commerce and Subcomm. on Housing and Community Development of the House Comm. on Banking, Currency, and Housing*, 94th Cong., 2d. Sess. 73-4 (1976) (statement of Samuel J. Tuthill).

decision will largely depend upon how the homeowner perceives the relationship between the initial cost and the total energy savings.[66] The ratio of these two factors might have to fall below a certain threshold (such as 3.8:1) before the consumer will even begin to consider the value of energy conservation.[67] Government assistance that subsidizes or postpones the cost of individual expenditures could lower the ratio sufficiently to spark consumer interest.[68] Widespread advertising of the availability of such financial assistance would also be important in reducing information costs for the consumer.[69]

The second barrier to participation lies in the inability of consumers to make the proper choice of conservation techniques. The complexity of factors that must be accounted for in developing an expenditure mix precludes individual calculation.[70] Even in cases where simple computations could be made, experience indicates that consumers will not bother with them.[71] Furthermore, the cost of professional advice sought on a private basis would usually exceed the consumer's total investment budget. Present educational programs are providing some information to assist the consumer in his computations, but the value of such programs is limited by the degree of specificity that is needed to include all relevant factors.[72]

A better approach may be to integrate an information program with financial assistance. The FEA's Project Conserve could serve as a model for such an experimental effort. Under

66 *See* S. DOLE, *supra* note 17, at 104.

67 *Id.* 105.

68 Estimates of the potential impact of government programs vary widely. While Dole suggests that 20 percent of the potential households could be influenced to undertake investment, *id.* xiv, the FEA has projected that up to 70 percent of residential units existing in 1972 would be fitted with at least one energy-saving measure qualifying for a 25 percent tax credit on the first $1000 of energy conservation investment. FEDERAL ENERGY ADMINISTRATION, *supra* note 21, at 165.

69 The existence of an incentive in itself may educate the consumer about opportunities for conservation. *See Housing/Energy Hearings, supra* note 26, at 101 (statement of Roger W. Sant). On the other hand, publicizing the availability of the assistance may require a significant portion of the program's budget if consumers do not follow government actions closely.

70 *See* text accompanying notes 34-57 *supra.*

71 A study of New York State mandatory appliance efficiency labeling concluded that consumers will not undertake the steps necessary to make efficient purchases. *See* W. Hederman, Government Promotion of Energy Conservation in Buildings (May 24, 1974) (unpublished master's thesis, University of California, Berkeley).

72 The Petersen study provides the broadest range of variables to date, but even its analysis must be expanded to give useful advice to homeowners. *See* S. PETERSEN, *supra* note 11, at 41.

this pilot program, presently directed at middle-income homeowners, the FEA sends out questionnaires soliciting detailed information on individual characteristics of homes and their present state of insulation. The agency returns computer printouts capable of describing the optimal retrofit package for the individual home.[73] These data presentations could be combined with specific information on available subsidies and directions for purchases and installation of conservation devices. With this advice, an individual can more intelligently decide whether to undertake what will often be a substantial long-term investment in insulation materials.[74]

C. *Revenue Loss and Social Benefits*

Whether government assistance is desirable from a social, rather than an individual, point of view depends upon the total cost of the effort compared to the value of foregoing additional energy consumption. The total cost of the program includes both the unsubsidized expenses paid by the consumer and the government grant.[75] Administrative and advertising costs separate from the grant should be added into the computation. The value of foregoing energy consumption is money that the consumer saves from reduced fuel bills and intangible benefits to American citizens generally, such as reduced dependence on foreign fuel supplies. If the total costs of the incentive exceed the total benefits, the incentive should be rejected as a government policy because it is socially inefficient. Excessive cost in energy conservation is an economic signal that the energy should be used in existing residences rather than saved.[76]

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73 *See The Energy Crisis and Proposed Solutions Panel Discussions, Part I, supra* note 8, at 15.

74 *See* S. PETERSEN, *supra* note 11, at 3.

75 The unsubsidized expense of the investment for the consumer is difficult to predict because it depends upon the investment mix that is found to be most efficient for the particular residence. This expense is omitted from the comparison of costs and benefits later in the text because it is uncertain and would only increase the cost of the retrofitting, making the incentive appear even less efficient. *See* text accompanying notes 85 and 86 *infra*. Nevertheless, the additional component of individual cost should be kept in mind as an element of the economic efficiency gain that comes from subsidizing residential energy conservation. If the subsidy and the consumer cost exceed the price of a barrel of oil saved, the social investment in a subsidy is wasteful.

76 Efficient allocation of subsidies for individual action requires the government to observe the constraints of the price system just as the individual allocating his own

Certain economic forces may tend to reduce the conservation value of government expenditures. First, the assistance may induce inflation in the energy conservation materials industry and erode the purchasing power of subsidy dollars. Any sudden increase in purchases of insulating materials, such as those likely to be stimulated by government retrofit subsidies, would strain the productive capacity of that industry and create demand-pull inflation.[77] This inflation would be exacerbated by increased demand for insulation resulting from imposition of more stringent thermal standards for new construction.[78] Increases in the price of conservation materials will decrease the quantity purchased and thereby reduce the energy savings.

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expenditures does. *See* R. MUSGRAVE AND P. MUSGRAVE, PUBLIC FINANCE IN THEORY AND PRACTICE 60-64 (1973). One condition for economic efficiency is that the marginal benefits of an expenditure equal the marginal costs. If this condition is ignored and additional funds distributed, the government wastes resources because the consumer would get more benefit from using the subsidy to buy an additional unit of oil than an additional unit of retrofitting. *See id.* 58.

The existence of imperfect market conditions does not make this concern less significant. Government incentives for residential energy conservation represent an attempt to promote the consumption of a "merit good." Retrofitting can be considered a "merit good" because it represents a socially-desirable expenditure that the consumer does not make because he lacks sufficient information to make a rational choice or because the external costs of dependence on foreign oil are not reflected in the price of energy consumption. *See id.* 81. But the requirement that marginal benefits equal marginal costs for individual expenditures still applies because inefficient incentives for "merit goods" have the same potential for creating waste as inefficient private expenditures. *See id.* 77. Once the monetary costs of information gathering, externalities of reduced energy consumption, and subjective preferences are accounted for, the decision to make an energy conservation investment should still rest on economic efficiency. *See* Darmstadter, *Conserving Energy: Issues, Opportunities, Prospects,* 2 J. OF EN. & DEV. 2,3,12 (1976).

77 Current insulation industry capacity for retrofitting existing homes is about 4 million per year. *See Housing/Energy Hearings, supra* note 26, at 56 (statement of Roger Sant). Meeting an expanded goal of 18 million homes by 1980 would require a large increase in output that would strain capacity. *See The Energy Crisis and Proposed Solutions: Panel Discussion Before the House Comm. on Ways and Means, Part IV,* 94th Cong., 1st Sess. 1725 (1975) (statement of Sheldon Cady, president of the National Mineral Wool Insulation Association). Recent inflation in the insulation sector suggests that a substantial price rise would accompany this expansion. While the Wholesale Price Index overall rose 30 percent between July 1973 and July 1975, the price of wool batting insulation rose by 48 percent during that period. *See* T. Nelson, The Home Insulation Tax Credit 3 (December 11, 1975) (Congressional Budget Office, Tax Policy Division). At the very least, this development demonstrates that idle capacity in the industry is not absorbing price increases. The purpose of the assistance would be defeated if it caused a commensurate increase in retrofit costs which completely or almost completely offset the incentive.

78 FEA Press Release, February 1975, *cited in Energy Conservation Act of 1976: Hearings Before the Senate Comm. on Commerce,* 94th Cong., 2d Sess. 82 (1976) (statement of William F. Kenny III).

Second, inelastic demand for retrofitting may reduce the expected decline in energy consumption from the government conservation incentive. While initial purchases of conservation devices may be substantial, the total increase in consumer demand in response to the reduction in price created by the subsidy might not achieve the energy savings projected by government agencies. The demand estimate supporting the anticipated 50,000 to 150,000 barrel per day oil savings from the House and Senate tax credit proposals appear to assume an elasticity of demand for retrofitting of -12.0.[79] This figure represents a 360 percent increase in purchases from a 30 percent reduction in cost by the subsidy. Most economists, however, believe that an elasticity of -1.0 is more appropriate when, as here, the elasticity of demand is uncertain.[80] This uncertainty about the ultimate increase in retrofit purchases stems in part from the barriers to consumer participation previously discussed,[81] but also reflects an inability confidently to attribute purchases to the impact of the subsidy rather than to increased energy prices.[82] High elasticity estimates credit the subsidy with all of the additional purchases, but this assumption does not account for the role of higher energy prices.[83] A more realistic

79 *See* STAFF OF JOINT COMM. ON INTERNAL REVENUE TAXATION, 94TH CONG., 1ST SESS., ANALYSIS OF ENERGY SUPPLY, CONSERVATION, AND CONVERSION: HOUSE BILL (H.R. 6860) AND POSSIBLE ALTERNATIVES: BUSINESS USE TAX, TAX TREATMENT OF RAILROADS, HOME INSULATION, ETC.: REPORT TO THE SENATE COMM. ON FINANCE 7 (Comm. print 1975). Averaging the 50,000 to 150,000 barrel per day range on potential energy savings yields a total savings of 36.5 million barrels per year. The Pechman and Surrey study of the residential energy conservation tax credit provides a base figure for present retrofitting demand from which a 60 percent increase would produce an energy savings of 6.38 million barrels per year. *See The Tax Credit for Home Insulation* in TAX REFORM ACT OF 1976: COMPENDIUM OF PAPERS ON FEDERAL TAX REFORM 246-47 (J. Pechman and S. Surrey, eds., 1976) (prepared at the request of individual members of the U.S. Senate, 94th Cong., 2d Sess.; on file at the *Harvard Journal on Legislation*) [hereinafter cited as PECHMAN-SURREY STUDY]. Thus a six-fold increase in projected energy savings should require a 360 percent increase in demand. Diminishing marginal returns to energy conservation investments seem to justify the assumption of linearity. *See* S. PETERSEN, *supra* note 11, at 12-13. A 360 percent increase in demand from a 30 percent decrease in cost through the energy conservation tax credit represents a demand elasticity of -12.0. *See* PECHMAN-SURREY STUDY, at 241.

80 *See* PECHMAN-SURREY STUDY, *supra* note 79, at 241.

81 *See* text accompanying notes 63-74 *supra.*

82 *See* PECHMAN-SURREY STUDY, *supra* note 79, at 243.

83 The FEA estimate of 95,000 barrels per day for its proposed 15 percent tax credit on the first $1000 of retrofitting existing homes attributed all of the fuel conservation caused by all of the insulation while the credit would be in effect. This assumption is unjustifiable because rising energy prices would create an independent incentive effect on purchases that could not be distinguished. *See id.* 242-43.

liberal demand elasticity of -2.0 reduces anticipated savings from 36.5 million barrels of oil per year to 6.38 million.[84]

Thus the existence of inflation in the initial stages of an incentive program and low ultimate demand for retrofit materials could reduce the energy savings far below the amounts estimated by some government agencies. This decreased level of benefits must be weighed against the government revenues that would be expended for the incentive.

Comparison of the costs and benefits of a specific and limited government incentive, the House residential energy tax credit proposed in 1975,[84a] reveals that the cost of saving a barrel of oil through the tax credit would exceed by a wide margin the world market price of the oil. Using the generous elasticity estimate of -2.0, a tax credit of 30 percent on the first $500 of retrofitting expenditures would save 6.38 million barrels of oil per year at a cost of $42.35 per barrel.[85] The government could distribute free almost four barrels of $12.00 OPEC oil for each barrel of oil saved by the incentive.[86] Any discounting of future benefits against the present costs of the incentive would only increase the per barrel cost.[87] The additional $30.00 in conservation costs must be considered the price of decreased dependence upon foreign oil. This price appears excessive when compared to other options for government participation in energy conservation decisions.[88] Caution should be exercised in instituting subsidies for this kind of residential energy conser-

84 *Id.* 241-42.

84a *See* H.R. 6860, Energy Conservation and Conversion Act of 1975, 94th Cong., 1st Sess. (1975).

85 PECHMAN-SURREY STUDY, *supra* note 79, at 242.

86 *Id.*

87 Discounting would deflate the benefits more than the costs of government assistance because the most significant benefits would accrue well after the initial government expenditures were made. In addition, the benefits would be spread out over time, while the costs would be concentrated in the first few years. The House Report on the proposed residential energy conservation credit in H.R. 6860, the Energy Conservation and Conversion Act of 1975, 94th Cong., 1st Sess. (1975), projected tax revenue losses of $190 million in the first year and $260 million in the second and third years, while estimating future energy savings of 50,000 to 150,000 barrels per day after five years. *See* H.R. REP. No. 221, 94th Cong., 1st Sess. 17, 49 (1975).

88 Government programs that devote funds to energy conservation education and energy efficiency standards might save more energy for the same government expenditure, or the same amount of energy for a smaller government expenditure, than a residential energy tax credit. Such policies could include construction standards for new buildings, efficiency standards for new appliances, and energy taxes with transfer payments to the poor to overcome equity problems. *See* S. DOLE, *supra* note 17, at xvi-xvii.

vation to avoid entrenching a program that may waste a significant amount of government funds.

D. *Conclusion*

A close examination of the concept of government subsidies for energy conservation has yielded some practical problems of major significance. Individual energy-saving investments may be cost-effective, but administrators will experience difficulties in determining the likely distribution of cost-effective investments among homeowners. Participation might be high if all consumers were perfectly informed, but homeowners are not aware of possibilities for energy conservation, and the costs of educating them are substantial. Conservation may save a considerable amount of energy, but the savings may involve a higher price in government spending than the public is willing to pay.

The nature of the uncertainties inherent in the decision to invest in retrofitting shapes the character of any government program which seeks to encourage such decisions. A program must have a large informational component to overcome barriers to consumer participation and to increase the efficiency of the expenditure mix. The program must be phased in gradually to allow accumulated experience to dictate how government expenditure can most effectively be targeted. The parameters of the program must allow for diversity in the types of expenditure undertaken and must be flexible enough to encourage and incorporate innovations. Administrators must be able to adjust the eligibility criteria so that funds can be used to achieve maximum savings per dollar. Finally, the program should be subject to cancellation if retrofit investments are found to be non-cost-effective in comparison to other options. Further consideration of these issues will indicate that a direct expenditure program could far better meet these needs than a tax credit proposal.

III. Tax Credits as an Incentive for Residential Energy Conservation: A Critique

A. *Introduction*

The decision to institute a government program to encourage consumer investments in residential energy conservation

requires a choice among implementation strategies: Congress can either compel consumers to follow a specified course of action or provide for benefits to induce the desired behavior.[89] Assuming the decision is made to rely on voluntary action, the choice narrows to whether the benefits should be distributed by direct grants and loan guarantees or indirect aid through tax relief. The selection of one form of subsidization over another has important consequences for the effectiveness of the conservation program. Close examination of the tax incentive alternatives reveals that they would restrict participation in the energy conservation program and create new difficulties in tax equity and administration.

The government has several options for devising a tax incentive policy for residential energy conservation.[90] Among its choices are deductions from taxable income and credits against tax liability. There are two types of deduction: those having the effect of an absolute tax reduction[91] and those deferring tax

89 One recent proposal by the staff of the FEA would implement a mandatory insulation retrofitting program for existing homes. Under one version, public utilities would insulate homes themselves and spread the cost among energy consumers generally through higher fuel bills. TIME, April 4, 1977, at 63.

Such a compulsory expenditure would seem to face serious obstacles in its effort to reduce energy consumption. The costs of enforcing compliance would be high because private utilities have no financial incentive to encourage lower power consumption by their customers. Moreover, the program would not distinguish between cost-effective and non-cost-effective investments in insulation. The utilities have no interest in preventing non-cost-effective investments or even in holding down installation costs because the regulated industry would be permitted to pass through all of its expenses. Administrative attempts to limit the size of utility expenditures by examining their efficiency would add the special difficulties of utility rate base determinations to the complicated cost-effectiveness analysis discussed previously. *See* text accompanying notes 34-62 *supra*.

Moreover, a mandatory program would raise serious equity issues. The government would substitute the private market for the tax system in raising revenues for the subsidization of energy conservation investments. But such a financing system would burden the poor excessively because they would pay a larger pecentage of their incomes in higher fuel bills than richer citizens would. The regressive impact of the proposal is similar to that of a sales tax; both share a focus on consumption rather than income. *See* R. MUSGRAVE & P. MUSGRAVE, *supra* note 76, at 312. Transfer payments to the poor, possibly in the form of energy stamps, could mitigate this effect, but such grants might be resisted as an undesirable expansion of the welfare system. For reasons of administration and equity, then, a mandatory, privately-subsidized retrofit program does not appear to be an effective means of encouraging energy conservation.

90 One tax option beyond the scope of this article would be the imposition of excise taxes on oil and gas consumption. Such taxes might encourage energy conservation investments by confronting the consumer with the full costs of energy use. However, excise taxes would burden the poor more heavily than other income groups because excises are based on individual consumption rather than income. *See* note 89 *supra*.

91 This group of tax deductions includes a portion of expenditures for personal

liability to future years.[92] Tax credits constitute absolute, immediate reductions in tax liability.[93]

The deduction approach in the past was the more popular mechanism for encouraging desired taxpayer behavior. However, recent administrative and legislative proposals involving tax incentives to encourage energy conservation have utilized, almost uniformly, the tax credit device.[94] The shift from de-

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living and benefits the individual as a consumer by reducing the cost of certain goods and services, such as medical and dental care. *See* S. SURREY, PATHWAYS TO TAX REFORM 95 (1973).

92 These deductions are for capital expenditures and normally would be allocated over the full life of the investment. But provisions for accelerated deduction allow the taxpayer to collapse all of the deduction's impact into the first year of the investment or to step up the pace at which expenditures can be deducted. Collection of the tax is only deferred, not foregone; income in future years will be taxed at normal rates, while the deductions will already have been exhausted. Examples of expenditures favored by this kind of tax treatment are real estate, oil, cattle, orchards, and railroad cars. *See id.* 96.

93 This effect results from the requirement that a specific form of expenditure be made before the taxpayer is eligible for the credit. The tax credit mechanism responds to a discrete purchase of goods or a need for welfare payments rather than the costs of earning income. Thus deferral of tax payments over a number of years is not a feature of the tax credit because the credit is not designed to assist income-earning activities. *See generally id.* 98-99.

94 President Carter has proposed a tax credit of 25 percent of the first $800 and 15 percent of the next $1400 invested in approved conservation measures, for a total potential credit of $410. *See* N.Y. Times, April 21, 1977, at 48, col. 3. This tax credit may include addition of energy conserving devices to heating systems as well as a subsidy for insulation. *Id.* 46, col. 2. Mandatory insulation standards may be imposed on owners of existing homes if the credit does not promote sufficient conservation. *Id.* 48, col. 3. For the possible adverse effects of such a mandatory policy, *see* note 89 *supra*.

The Federal Energy Administration has supported the residential energy tax credit. In November, 1974, the agency proposed a temporary 25 percent credit on investments of up to $1,000 for retrofitting homes with energy conservation devices. The credit was intended to benefit owners of single and multifamily residences and would have been applicable on a per-dwelling basis. FEDERAL ENERGY ADMINISTRATION, *supra* note 21, at 165.

President Ford, as well, in his 1975 State of the Union Address, called for the adoption of a residential insulation tax credit of 15 percent for expenditures of up to $1,000 as part of his Energy Independence Act proposals to Congress. President's 1975 State of the Union Address, 11 WEEKLY COMP. OF PRES. DOC. 45, 50 (Jan. 17, 1975).

Congressional action on residential energy conservation incentives has also taken the form of tax credit proposals. The House Ways and Means Committee reported out, as part of the proposed Energy Conservation and Conversion Act (H.R. 6860), a temporary (three-year) residential insulation credit, awarding a 30 percent nonrefundable subsidy on the first $500 of qualified insulation expenditures. The Committee restricted qualified expenditures to those involving the purchase and original installation of items which have at least a three-year useful life, are primarily designed to reduce heat gain or loss, and meet performance standards prescribed by the Treasury after consultation with FEA and HUD. This bill passed the House in June 1975. H.R. REP. No. 221, *supra* note 87, at 48; STAFF OF THE JOINT COMMITTEE ON INTERNAL REVENUE TAXATION, 94TH CONG., 2D SESS., SUMMARY OF ENERGY CONSERVATION AND CONVERSION ACT OF 1975 (H.R. 6860) 3 (Senate Finance Comm. Print 1975).

ductions to credits can be attributed to the fact that deductions increase in value as the taxpayer's income rises.[95] Thus the level of the taxpayer's marginal tax rate determines the amount of benefits ultimately received in tax dollars saved.[96] The tax credit is regarded as more equitable because each taxpayer with tax liability sufficient to absorb the credit obtains the same rate of assistance per dollar of expenditure.

Because of the recent legislative preference for tax credits in this area, this article will focus its critique on the tax credit rather than the deduction as the proposed mechanism for stimulating energy conservation. Initially, the need to analyze the tax credit in the same manner as any other type of government expenditure is established. The tax credit is then examined for its efficiency in encouraging energy conservation, its impact on tax equity, and its ability to deal with administrative difficulties. The analysis demonstrates that the tax credit is an inadequate response to the objective of encouraging efficient residential energy conservation.

B. *Tax Credits as Government Expenditures*

Much of the popularity of tax credit proposals for stimulating desired consumer behavior stems from overbroad generalizations and misconceptions.[97] These same generalizations have been used to justify the often skimpy congressional review

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The Senate Finance Committee, in reporting out H.R. 10612, the Tax Reform Act of 1976, added a tax credit for residential insulation but raised the limitation of H.R. 6860 to 30 percent of the first $750 of qualified expenditures. S. REP. No. 938, 94th Cong., 2d Sess. 24 (1976). On the Senate floor, Senator Brooke proposed an amendment to this provision which would have broadened the residential tax credit to cover "any other energy-conserving component expenditures" made by the individual. The amendment, as originally proposed, defined these other components to include, but not to be limited to, a heat exchanger, a combustor, ducting, piping, or a control, which could increase in a cost-effective manner the thermal efficiency of a residential structure or improve the operating efficiency of a heating system already installed. 122 CONG. REC. S10,281 (daily ed. June 23, 1976). As eventually passed by the Senate, the amendment narrowed the range of qualified expenditures in the areas mentioned above, but the scope of the credit was still broadened over the original committee amendment. *See* 122 CONG. REC. S13,217-19 (daily ed. Aug. 3, 1976). The conference committee on H.R. 10612 rejected the Senate amendment. H.R. REP. No. 1515, 94th Cong., 2d Sess. (1976), *reprinted in* [1976] U.S. CODE CONG. & AD. NEWS 1324.

95 *See* SURREY, *supra* note 91, at 97.

96 *See, e.g.*, R. MUSGRAVE & P. MUSGRAVE, *supra* note 76, at 239.

97 Professor Surrey characterizes these beliefs as essentially political judgments that are "rooted in illusions or irrationalities." SURREY, *supra* note 91, at 147.

that accompanies such credits.[98] Tax credits traditionally have been considered a special kind of policy tool for three reasons. First, it is argued, tax credits promote individual choice because the individual, rather than the government, decides how his money will be spent. Individual decisions are said to be usually more efficient than government decisions because they are grounded on more precise knowledge of particular needs.[99] Second, tax credits are perceived as a costless form of subsidy because the government does not have to spend its own resources for the program in question;[100] instead the IRS merely refrains from collecting taxes from eligible individuals. Third, the credit is thought capable of serving as an incentive in areas where a direct expenditure cannot be formulated. Some programs that involve government reimbursement for private investments have seemed difficult to devise in the form of a direct grant.[101] Examination of these three perceptions of tax credits in the context of residential energy conservation, however, establishes that tax credits must be analyzed for efficiency and administrative simplicity on the same terms as any other government expenditure.

First, the use of tax credits does not obviate the need for government involvement in the choice of energy conservation investments. Aided only by a tax credit, consumers cannot be expected to make superior choices in energy conservation. An effective decision-making process requires the ability to judge conservation needs and costs with great accuracy. But individuals lack the necessary information to make efficient retrofitting investments. Obtaining the expertise for selecting the appropriate types of conservation investments, moreover, is very costly.[102] Changes in the variables that affect cost-effectiveness and dictate the proper investment mix make judgments even more difficult.[103] Any tax credit program must include a mech-

98 *See* Aaron, *Tax Exemptions — The Artful Dodge,* TRANSACTION, March 1969, at 5.
99 *See* SURREY, *supra* note 91, at 131-32.
100 *Id.* 147.
101 Some have suggested that subsidies to employers must be given in the form of tax credits because businessmen will respond only to that kind of incentive. The credit dollars are presumed to be "clean" in businessmen's minds while the grant dollars are tainted with the stigma of a handout. *See id.*
102 *See* text accompanying notes 65-71 *supra.*
103 *See* text accompanying notes 46-49 *supra.*

anism for transferring the data analysis capacity of government computers to the individual homeowner. The consumer's independent decision is not likely to be more efficient than a government decision, because complex data must be processed and analyzed before a choice of retrofit materials can be made efficiently.

Second, it is not justifiable to differentiate tax credits from direct grants by claiming that a credit does not require the expenditure of government funds. Tax theorists have recognized that tax incentives constitute a government expenditure.[104] The fiscal impact of this expenditure is indistinguishable from a direct grant of the same amount. Although the tax credit is often perceived to be nothing more than a means of reducing the individual's tax burden,[105] it also reduces the revenues available to the government for expenditure in other programs.[106] The credit must compete with other social priorities for the scarce fiscal resources that come from the tax collection process. Thus a tax credit must be considered as an additional component within the structure of the government budget.

Attempts to distinguish tax credits and direct expenditures on the basis of applications to certain situations are also misconceived. A tax credit is functionally equivalent to a direct expenditure. The credit could be considered as an imputed tax payment, which would have been made in the absence of the credit, and a matching, simultaneous government expenditure in the form of a direct grant back to the taxpayer.[107] Viewed in this manner, the credit operates exactly as does a direct government expenditure. Therefore, a direct expenditure can be devised for every situation that a credit could address.

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104 *See* Surrey & McDaniel, *The Tax Expenditure Concept and the Budget Reform Act of 1974*, 17 B.C. INDUS. & COM. L. REV. 679 (1976); R. MUSGRAVE & P. MUSGRAVE, *supra* note 76, at 247.

105 *See* SURREY, *supra* note 91, at 98.

106 In recognition of the budgetary nature of the tax credit, the Budget Document of the United States for fiscal year 1976, issued in January 1975, contained for the first time a Special Analysis entitled "Tax Expenditures." This report was issued pursuant to the mandate of the Congressional Budget Act of 1974, § 308, 31 U.S.C. §§ 1329(a), (c) (Supp. IV 1974). *See* Surrey & McDaniel, *supra* note 104, at 679.

107 Every tax credit proposal can be structured in the form of a direct expenditure program. SURREY, *supra* note 91, at 129-30.

The previous discussion has shown that an energy conservation tax credit possesses no special qualities that should allow it to escape ordinary budget scrutiny. The credit's popularity on these grounds is thus unjustified. But there is a fourth possible explanation for the popularity of the tax credit. Tax credits can hide politically sensitive congressional subsidies and grossly inefficient spending from public view because of their placement in the complex Internal Revenue Code.[108] This purpose cannot be considered a legitimate justification for the use of a tax credit. It is contrary to recent public concern with open government decisions.[109] Moreover, the hidden spending makes congressional expenditure control extremely difficult.[110]

Thus the tax credit should not be sheltered from the same kind of scrutiny that Congress exercises over direct expenditures. Examination of the tax credit's ability to allocate aid to those who require the assistance without wasting money on individuals not needing the incentive will show that the tax credit would not survive exacting scrutiny.

C. *Efficiency Limitations*

The effectiveness of any government assistance program in encouraging new investment in residential energy conservation lies in its impact upon the decisions of homeowners who would not make an energy conservation investment without the incentive. Subsidies should not be given to people who are sufficiently motivated by rising energy prices to invest in adequate retrofitting. Also, given limited government funds, the program's impact would be greatest if financial support were spread among a large number of homeowners rather than concentrated in large subsidies to a few.[111] A tax credit, how-

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108 *Id.* 147-48.

109 *Id.* 148.

110 *Id.* 145.

111 The energy savings from conservation expenditures should serve as a large part of the financial stimulus for investment. Thus the tax credit's role must be as an additional incentive for the expenditures rather than as full compensation for them. *See* STAFF OF JOINT COMMITTEE ON INTERNAL REVENUE TAXATION, *supra* note 79, at 7.

This article confines its tax incidence analysis to the level of the recipient living in single-family homes. A broader examination of actual beneficiaries would consider those groups that ultimately benefit from the tax credit as a consequence of purchases made and the immediate ripple effects of the purchases on the economy in general. But

ever, is likely to violate these conditions for efficiency. It will benefit the homeowners who need it least and in inefficiently large amounts. Moreover, it will fail to benefit many homeowners who need it most.

As in the revenue loss analysis above,[111a] the following discussion uses the $150 House credit proposed in 1975 as the basis for cost calculations. These estimates are meant to be conservative. Any increase in the assumed total credit, such as President Carter's proposed $410 maximum credit, would magnify the problems of efficiency and equity because the credit would subsidize greater windfalls for middle-class consumers and raise the income threshold for participation by lower-class consumers.[111b]

1. Windfalls for the Middle Class

Little information is available concerning the impact of energy prices on individual decisions to conserve. But existing evidence does suggest that middle income homeowners[112] require little additional incentive to retrofit. The high incidence of insulation and storm windows in their homes indicates a willingness to invest in energy conservation devices, despite previously prevailing low energy price levels, if the investment

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it is the class of primary beneficiaries — the direct recipients of the subsidy — that is of central concern. The composition of this class directly influences the efficiency of the credit because of its relationship to program participation. *See* Surrey & McDaniel, *supra* note 104, at 692-93.

Another broader issue that bears a close relationship to efficiency of the tax credit is the distribution of payments to owners of rental and multi-family units. Landlords may decide to take the cheaper course of keeping temperatures low if they control the thermostat. Since 46 percent of the poor reported in the Washington Center for Metropolitan Studies survey that they did not control the heat in their apartments, this problem may be of considerable significance. *See* D. NEWMAN & D. DAY, THE AMERICAN ENERGY CONSUMER 97 (1975) (preliminary report of the Energy Policy Project, Ford Foundation). But the recent rise in energy prices suggests that profit-conscious landlords may already have taken full advantage of whatever cheaper opportunities for energy conservation exist. Any potential investments that remain involve the same analysis of cost-effectiveness and barriers to consumer participation as that used for homeowners.

111a *See* notes 79-88 *supra* and accompanying text.

111b *See* note 98 *supra* and text accompanying notes 112-31, 137-45 *infra*.

112 The Washington Center for Metropolitan Studies survey separated upper and lower middle class homeowners into two groups with average incomes of $8,000 and $14,000 per year, respectively. *See* ENERGY POLICY PROJECT, FORD FOUNDATION, *supra* note 10, at 118.

seems worthwhile.[113] At this income level, any failure to make additional cost-effective investments probably can be attributed to a lack of information, a problem which could be overcome by education programs.[114] Yet these homeowners are the most likely individuals to benefit from the tax credit. They constitute the lowest income group with sufficient tax liability to take full advantage of the credit.[115] Also, they are able to afford the initial capital investment that is necessary to become eligible for the credit.[116] Moreover, money saved by the tax credit may simply replace the funds they had already earmarked for energy conservation investment in response to rising energy prices. For these individuals, the tax credit will be nothing more than a windfall gain. If, for example, an individual needs insulation valued at $600, the willingness of the government to pay back $200 of his initial outlay will be an actual incentive only if his discretionary income would have previously limited investment to between $400 and $599 and the eligibility provisions require that the full $600 be spent to qualify for the tax credit. Any smaller investment would not yield the full value of the credit and any larger investment would add non-cost-effective conservation devices and create waste.

One possible effect of the unnecessary subsidy would be to increase purchases of non-conservation-related items. Consumers would use money displaced by the credit for other desired goods. This kind of diversion cannot be tolerated when the purpose of the credit is to stimulate maximum investment in specific goods — retrofitting materials — to save energy.

A second possible consequence of the unnecessary subsidy might be to discourage cost-consciousness in the conservation investment. Self-installing the retrofitting is not difficult and

113 The 1972-73 Washington Center for Metropolitan Studies surveys indicated that 90 percent of well-to-do homeowners, with an average income of $24,500, have some insulation in their homes and 63 percent have storm windows. About 85 percent of upper middle class homeowners and 60 percent of lower middle class homeowners have some insulation; 55 percent of upper middle class and 30 percent of lower middle class homeowners have storm windows. *See id.* 118-21.

114 *See* note 62 *supra.*

115 An individual needed an income of at least $3950 and a family of four at least $7475 in 1976 in order to absorb the full benefit of the $150 House tax credit (H.R. 6860). *See* I.R.C. §§ 141(b), 151(b), 42(a), 43(a), H.R. REP. No. 221, *supra* note 87, at 48; notes 123, 124 *infra.*

116 *See* S. REP. No. 824, *supra* note 28, at 7.

increases the cost-effectiveness of conservation investments.[117] But if an excessive tax credit subsidy is granted and all money from the credit must be spent on energy conservation, the homeowner will be tempted to have the insulation installed by a professional rather than installing it himself. This use of subsidy dollars, aside from its wastefulness, would decrease total energy savings from the tax credit.

The wastefulness of the tax credit in allowing an income tax offset to those who do not need the incentive becomes even clearer when the credit is viewed in terms of a direct grant. A similar direct grant would give the individual $200 and direct the homeowner to spend it on insulation. However, if he had already earmarked funds for the purchase, the consumer could spend the grant as he desires. Such a giveaway would be unacceptable in a direct assistance program, and should be considered equally unacceptable for a tax credit.

Furthermore, these inefficiencies will increase over time. As energy costs continue to rise, a larger number of individuals will inform themselves about conservation alternatives. Particularly if there are future energy emergencies (*e.g.*, another oil embargo) causing sudden increases in energy prices, consumers will intensify conservation efforts. The magnitude of windfall payments to wealthy individuals independently willing to institute conservation measures would correspondingly rise over time. While all programs of this type have some inherent level of waste, increasing the incentive to invest for those who already have sufficient funds would mean that any impact on marginal investors from the credit would be far outweighed by the opportunity given to other recipients to divert funds from energy conservation to other purposes.[118] Furthermore, any attempt by the government to minimize the windfall by adjusting the level of the tax credit will face great implementation problems. Moreover, in reducing the size of the credit, the administrator would force individuals who need the full incentive to make the investments to drop out of the program.

The income eligibility requirement of the tax credit, then, wastes government funds by conditioning participation in the

117 *See* S. DOLE, *supra* note 17, at 96, 98.
118 *See* PECHMAN-SURREY STUDY, *supra* note 79, at 243.

program on sufficient tax liability to absorb the credit. This standard gives wasteful subsidies to middle-income homeowners who need them least. Moreover, the distribution of the full credit to those whose tax liability can absorb it would strain any limits to disbursement that Congress might place on the credit and limit the magnitude of the incentive effect that partial credits could induce.

2. Exclusion of the Poor

The selection of a device within the income tax system involves the implicit adoption of the operative limitations of the tax system. These limitations will significantly reduce the number of lower income individuals who can participate in the program. Use of the tax system presupposes that the prospective beneficiary possesses a number of characteristics.[119] He must be a taxpayer to derive any benefit at all; non-taxpayers are excluded. Non-taxpayers include both those without any taxable income and those with some taxable income but no tax liability because of their eligibility for other tax credits and deductions. This category would be made up of a variety of households — social security pensioners,[120] veterans' pensioners,[121] single persons under 65 with less than $2,675 adjusted gross income,[122] and married persons under 65 with two children and less than $6850 adjusted gross income.[123] Altogether, the credit may exclude as many as ten percent of American

119 The inadequacies of possible adjustments in the tax credit to include as beneficiaries those not possessing the characteristics are discussed in the text accompanying notes 132-36 *infra.*

120 *See* I.R.C. § 37(b)(3).

121 *See* 31 U.S.C. § 3101; I.R.C. § 124(a).

122 This estimate combines a number of deductions and credits. First, the low income allowance permits a deduction of $1700 from gross income. *See* I.R.C. § 141(b). Second, the personal deduction allows another $750 for a single individual. *See* I.R.C. § 151(b). Third, the general tax credit allows the single individual to shelter another $225 from tax liability. *See* I.R.C. §§ 42(a), 43(a). The total income that must be earned before any tax is imposed, then, is about $2675.

123 This estimate involves the basic deductions and credits applicable to married couples filing joint returns. First, the low income allowance permits a $2100 deduction from gross income. *See* I.R.C. § 141(c)(1). Second, the personal deduction allows another $3000 for the taxpayer, his spouse, and the two children. *See* I.R.C. §§ 151(b), (e). Third, the general tax credit and the earned income credit shield $1750 from tax liability. *See* I.R.C. §§ 42(a), 43(a), 43(b). Thus, at least $6850 in income must be earned before any tax liability is accrued.

households from benefits because of the tax liability requirement.[124]

In addition, the credit procedure assumes that the individual can take full advantage of the credit if it is cost-effective for him to do so. But many households will not qualify for the full credit under any circumstances. They may not have adequate tax liability; under the House proposal,[125] a participant must have at least $1000 in taxable income to receive the $150 in benefits. This level of taxable income would probably require a gross income of at least $6850 for a family of four.[126]

Moreover, the after-the-fact nature of the tax credit requires recipients to bear the entire initial cost of the energy-conserving investment. Only those persons capable of making the maximum allowable investment will derive the full benefit of the credit. But many lower income families devote virtually all of their disposable income to current consumption, and could not spare the initial capital.[127] Loans, if available at all, often can only be obtained at prohibitively high interest rates.[128] Even though the poor spend 15 percent of their incomes on energy[129] and presumably could benefit from a reduction in energy consumption sufficient to offset the capital cost of retrofitting,

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124 Based on 1973 income tax regulations, an individual would have had to earn $2050 and a family of four $4300 in order to begin receiving any benefit from the tax credit. *See* I.R.C. §§ 141(b), 151(b) (1973). But nine percent of all families in the nation earned less than $4,000 in early 1974. *See* BUREAU OF THE CENSUS, U.S. DEP'T OF COMMERCE, STATISTICAL ABSTRACT OF THE UNITED STATES 390 (1975).

Consideration of the average tax paid within brackets involving low adjusted gross income leads to an even lower figure for the number of consumers who would be eligible for the full credit. These data are a more realistic source of a minimum required income because they include common exclusions and credits not incorporated above, such as child care and social security payments. A pre-tax income of $8000 to $9000 represented the lowest level where average tax liability exceeded $100. *See* INTERNAL REVENUE SERVICE, U.S. DEPARTMENT OF THE TREASURY, INDIVIDUAL INCOME TAX RETURNS: STATISTICS OF INCOME, 1973, at 5 (1976). The minimum level of income would render 22 percent of American families in early 1974 ineligible for the full tax credit. *See* BUREAU OF THE CENSUS, *supra,* at 390.

125 *See* H.R. REP. No. 221, *supra* note 87, at 48.

126 *See* note 123 *supra.*

127 *See* S. REP. No. 824, *supra* note 28, at 7.

128 This scarcity of credit may be relieved under President Carter's proposed expansion of private residential energy conservation loans through the Federal Home Loan Mortgage Corporation and the Federal National Mortgage Associaton. *See* N.Y. Times, April 21, 1977, at 48, col. 3.

129 *See* Washington Center for Metropolitan Studies Lifestyle and Energy Surveys, 1972-73, *cited in* ENERGY POLICY PROJECT, FORD FOUNDATION, *supra* note 10, at 118.

the tax credit gives them no assistance because the payment must be made before benefits are received.

The tax credit's exclusion of households that should participate is particularly striking when viewed as a "payment" in tax expenditure terms. On an investment of $600 in retrofitting, with a tax credit of 30 percent, the program would distribute payments to various homeowners in the following manner:

(1) Nothing to the widow living on social security,
(2) Nothing to the married couple with two dependent children and an adjusted gross income of $5000,
(3) $89 for the married couple with five dependent children and $8000 in adjusted gross income,
(4) $180 for the married couple with two dependent children and $25,000 in adjusted gross income,
(5) $180 for the single individual with an adjusted gross income of $60,000.[130]

A direct assistance program, by contrast, recognizing that the poor are most in need of increased insulation,[131] could target most of the funds toward the very individuals that the income tax credit would exclude.

3. Adjustments in the Tax Credit

The tax credit in its pure form thus excludes from benefits those to whom efficiency and distributional considerations dictate the benefits should primarily be channeled. Certain adjustments, it is true, could be made in the tax credit to alleviate some of the exclusionary effects. These potential adjustments include carry-back or carry-forward provisions, refunds, and advance payments. However, closer inspection of these adjustments casts doubts upon their feasibility.

Congress could attempt to make more consumers eligible for the full benefit of the tax credit by allowing them to carry back or carry forward unused credits to years in which they have greater taxable income. This approach, however, would fail to assist perennial nontaxpayers and individuals who, despite the

130 These estimates are based on the income tax analysis previously noted. *See* notes 123-25 *supra.*

131 *See* ENERGY POLICY PROJECT, FORD FOUNDATION, *supra* note 10, at 121. *See also* Pub. L. No. 94-385, tit. IV, § 441(a), 90 Stat. 1151 (1976) (to be codified in 42 U.S.C. § 6861).

tax credit shift, still could not make the initial capital investment. Also, the carry-back and carry-forward provisions would complicate the tax return procedure. People who are unfamiliar with filing tax returns and unable to afford professional assistance might be deterred from claiming the tax credit if the procedure becomes too complex.[132]

Making the tax credit "refundable" is another possible adjustment.[133] The consumer, after making an investment, would be paid whatever portion of the credit could not be claimed because of insufficient tax liability. A taxpayer with some liability, but not enough to absorb the full credit, would receive a check from the Treasury for the remaining amount; a nontaxpayer would receive a check for the entire amount of the credit. While this technique would separate eligibility for the tax credit from ultimate tax liability, it suffers from a shortcoming endemic to the income tax system — the inability to locate eligible non-taxpayers. Individuals without tax liability are not required to file returns under present law.[134] Locating those nontaxpayers who made investments which qualify for the credit could pose substantial administrative difficulties for the IRS, which lacks the experience and resources for the task that agencies accustomed to administering service-oriented programs possess. Similar problems engendered some opposition to President Carter's recent proposal for a $50 refundable tax credit to low-income individuals.[135]

Because of the after-the-fact nature of the disbursement, refundable credits do not alleviate the inability of consumers to afford the initial investment in energy-saving materials. Advanced payments might be introduced to eliminate this financing difficulty. McNulty has advocated such an alternative in the context of educational subsidies.[136] Advanced payments could

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132 *See The Energy Crisis and Proposed Solutions Panel Discussions, Part I, supra* note 8, at 41-2 (statement of William Simon).

133 *See* Surrey & McDaniel, *supra* note 104, at 713 n.120.

134 I.R.C. § 6012(a)(1)(A).

135 *See* N.Y. Times, Jan. 14, 1977, at 22, col. 3; N.Y. Times, Jan. 15, 1977, at 11, col. 1.

136 Advance payments must be made to the poor because they do not have the funds or the borrowing ability or advice to plan on the basis of tax refunds. *See* McNulty, *Tax Policy and Tuition Credit Legislation: Federal Income Tax Allowances for Personal Costs of Higher Education*, 61 CALIF. L. REV. 1, 72 (1973).

take the form of a direct grant to the claimant by the IRS, after the consumer has filed notice that he intends to make or has just made the investment. An alternative is the reduction of individual withholding rates. However, advanced payments by the IRS may create new difficulties. Some consumers might exploit the liberalized eligibility rules to defraud the government. Preventing such diversion of revenues would pose new enforcement challenges for the IRS. Furthermore, IRS distribution of payments would require duplication of existing welfare mechanisms and increase administrative costs.

A direct assistance program, by contrast, need not incur the additional administrative expenses involved in expanding eligibility for the tax credit. Grants can be given to individuals on the basis of their need for insulation rather than their incomes. The tax credit adds the administrative complexities outlined above in attempting to imitate the distributive flexibility of direct government subsidies.

In summary, a tax credit tends to direct benefits toward those consumers least likely to be influenced in their decisions by government subsidy. Furthermore, the tax credit ignores those individuals who most need the incentive in order to invest. Adjustments in the tax credit may mitigate this second disadvantage, but only at additional administrative cost. Thus, the tax credit, even with possible adjustments, would not be as efficient as a direct assistance program.

D. *Equity Concerns*

The energy tax credit will have an adverse impact upon the fundamental goal of promoting equity within the tax system. The most significant distortions take two forms: disparities in benefits among taxpayers in the same income bracket and excessive distribution of benefits to high-income as compared with low-income taxpayers. While some varieties of direct expenditure programs might partake of similar characteristics, the commitment of the tax system to uniform treatment of similarly situated individuals makes equity considerations much more important in the tax credit context. Moreover, the use of tax credits has an additional detrimental effect upon tax equity by hindering attempts to simplify the tax structure.

Inequities within tax brackets would result if the administrators of the tax credit give varying amounts of benefits to taxpayers with equal incomes because of variations in the energy conservation potential of their residences. One reason for such a difference might be that the first taxpayer has not yet invested any money in conservation and needs the incentive, while the second taxpayer has already purchased some retrofitting device without the encouragement of the credit. Another explanation may be that climatic or other variables make a larger investment desirable in energy savings for one taxpayer and not for another.[137] The more the credit attempts to account for these differences, the greater the variation in payments for taxpayers with the same income. Furthermore, the more liberal the credit becomes in total payments, the larger the potential disparity will be. These distinctions are highly visible and will lead to greater resentment in the context of the tax system than would direct grants of the same amount and distribution.[138]

A tax credit would create inequities between rich and poor citizens. As discussed above,[139] because the individual homeowner must have tax liability to receive any benefit from the credit, many poor people would not be reimbursed for participating in energy conservation investments.[140] Moreover, the lag between high initial investment costs and the delayed recovery of these costs through energy savings would deter lower income individuals who devote a large portion of their income to current expenses.[141] The resulting skewed distribution of tax revenues would further detract from the equity of the tax system.

An additional form of inequality between citizens with different incomes arises when the tax credit itself is not included in the income of the recipient. The credit, like wages, tips, and

137 *See* note 50 *supra* and accompanying text. *See also* SURREY, *supra* note 91, at 149.

138 People more easily perceive the inequities because most individuals must file a tax return; they see the special favors granted to certain groups in the instructions for the tax form. Moreover, the rhetoric of tax reform equates special tax devices with inequities. Tax simplicity has become the political vehicle for tax reform. *See* note 149 *infra.*

139 *See* text accompanying notes 119-24 *supra.*

140 *See* note 114 *supra* and accompanying text.

141 *See* S. REP. No. 824, *supra* note 28, at 13.

dividends, in legal theory should be considered part of income because it enriches the taxpayer.[142] However, a policy of not including the credit in income might be adopted because legislators believe that income exclusion would strengthen the incentive for taxpayers to participate.[143] But credits of this kind give "upside-down assistance" to taxpayers because the credit becomes a bonus of greater value to high-bracket than to low-bracket taxpayers.[144] For example, by excluding the credit from income, the 50 percent bracket taxpayer avoids the repayment of 1/2 of the tax credit ($250 of a $500 credit) as additional tax liability while the 20 percent bracket taxpayer only avoids repaying 1/5 of the credit ($100 of a $500 credit).

Attempts to solve this problem by including this credit in income, however, could further harm the poor. Beneficiaries of income maintenance programs might lose a portion of their payments because the credits would disrupt the welfare agencies' eligibility calculations, particularly if the credit is refundable to the nontaxpayer. The 1976 Tax Reform Act dealt with a similar welfare problem in the earned income credit by excluding the credit from the category of resources that accrue to the incomes of the poor and disqualify them for welfare payments under direct federal or federally-financed income assistance programs.[145] But exclusion of the credit from income returns the analysis to the initial inequities in treatment between rich and poor that plague the tax credit.

Direct expenditures programs share some of the problems of the tax credit. They would distribute different payments to individuals in the same income bracket if their needs for retrofitting differed. They would not necessarily be included in income and thus might give a greater benefit to taxpayers in higher brackets, though if the direct expenditure program were properly directed toward those with the greatest need for assistance, its distributive effect would be progressive, not the

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142 This position comports with modern interpretations of the income tax law. *See* Commissioner v. Glenshaw Glass Co., 348 U.S. 426 (1955); I.R.C. § 61(a).

143 *See* SURREY, *supra* note 91, at 137.

144 This effect is a characteristic of the new child care credit, I.R.C. § 44A. *See id.* 693 n.43.

145 Tax Reform Act of 1976, Pub. L. No. 94-455, § 401(c)(1)(b), 90 Stat. 1558 (1976) (amending I.R.C. § 43(a)).

reverse. Whatever possible inequities in direct expenditures there may be, however, do not raise the same kinds of concerns about tax equity among legislators and the public that tax credits do. Indeed, direct expenditure programs are expected to vary payments among individuals without regard to income level if the policy goals of the program require targeting benefits in a particular way. The only restraint upon unequal treatment is the constitutional requirement that the government may not discriminate on impermissible bases such as race or national origin.[146] One reason for this lack of concern over unequal treatment is that the progressive rate structure of tax collection under the income tax is often viewed as counterbalancing the impact of government expenditures that favor the rich over the poor.[147] Tax credits, on the other hand, appear to cut into the progressivity of the taxing process.[148] Another explanation may be that the use of direct grants eliminates arbitrary eligibility requirements of tax liability in the tax credit, thereby making all citizens potentially eligible for assistance. The detrimental influence of the tax credit upon tax equity justifies its rejection as a method for encouraging energy conservation. Direct expenditures present some equity problems, but their isolation from the general concern for tax equity may make them less disturbing.

The increasingly central position of tax credits in the income tax system has further implications for tax equity over the long run. Seeking to improve tax equity, tax reform efforts have been directed toward simplification of the Internal Revenue Code[149] because complex provisions tend to hide gross in-

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146 *See* Flast v. Cohen, 392 U.S. 83 (1968); Surrey & McDaniel, *supra* note 104, at 707.

147 *See* R. MUSGRAVE & P. MUSGRAVE, *supra* note 76, at 367, 374-76.

148 Eligibility for credits, like many deductions, often depends upon a minimum income for full absorption of the credit. *See* notes 123, 124 *supra*. Thus credits tend to constitute the same or greater percentage of adjusted gross income at higher than at lower income levels. *See* INTERNAL REVENUE SERVICE, *supra* note 124, at 112-13. The progressivity of the tax structure, then, is reduced by the tax credit because of this upside-down effect. *See* note 144 *supra* and accompanying text.

149 President Carter, for example, announced in his 1976 presidential campaign that simplification of the tax system by removing tax loopholes was the necessary first step to effective tax reform. *See* BUSINESS WEEK, Sept. 20, 1976, at 79. Moreover, President Carter's recent tax proposals have involved simplification of the Internal Revenue Code. *See* N.Y. Times, Mar. 25, 1977, at 1, col. 3.

equities in tax liabilities.[150] The institution of an energy conservation tax credit would hinder these efforts at tax reform in two ways. First, the introduction of a specific policy-linked credit into the Code is a new concept. Once the precedent is established, Congress will be less reluctant to adopt tax credits for many types of specific expenditures on socially desirable goods.[151] A trend to tax credits would diffuse and weaken the primary responsibility of the tax system for the equitable collection of government revenues. Second, the credit's further complication of the Code would inhibit any future simplification of the income tax system. Once the credit is established, its removal would have to be justified on substantive policy grounds as well as on general equity considerations.[152] Legislators might be reluctant to remove the credit if it had to be replaced by some other, untested, means of inducing energy conservation. The separation of direct expenditures from the tax system renders it politically superior to the tax credit as an energy conservation incentive.

In sum, a tax credit would reduce tax equity both through its operation and its position within the structure of the Internal Revenue Code. One type of tax credit would give disparate benefits to individuals with similar incomes. Other types would fail to assist low-income citizens by imposing efficiency-irrelevant, income-based eligibility standards. If excluded from the determination of income, the credit constitutes a larger subsidy to higher-bracket than to low-income taxpayers. Finally, adding credit provisions to the Tax Code places an impediment in the path of tax reform.

While direct expenditures must differentiate among individuals in the distribution of benefits, they do so on the basis of need or policy goals. Moreover, the provisions of direct expenditure programs do not symbolize a weakened commitment to tax equity. Rather, direct expenditures are potentially available to all citizens who need the assistance.

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150 *See* SURREY, *supra* note 91, at 146.

151 *Id.*

152 Moreover, provisions in the tax law tend to become enshrined long after their usefulness has ended because of the haphazard congressional review procedure. *Id.* 146.

E. *Administrative Difficulties*

The residential energy tax credit would create new supervisory problems for the IRS, because the agency does not have experience managing comparable programs. In the past, the IRS has only administered undifferentiated credits designed to increase consumer disposable income or promote business spending.[153] Assessing the energy efficiency of different types of residential conservation investments would be far more difficult than encouraging an industry to make general plant improvement expenditures under an investment tax credit designed to stimulate economic growth. Moreover, legislative and administrative development of a credit for general expenditures is further complicated by the inherent policy tradeoff between strict and liberal expenditure eligibility rules, by problems in drafting regulations, and by the need to maintain efficiency over time.

The Congress would have to choose between two mutually exclusive approaches in establishing tax credit eligibility rules. It could allow maximum diversity in eligible expenditures to encourage private innovation in energy conservation.[154] Alternatively, it could cut back on the number of qualified types of expenditure to prevent the credit from becoming a fiscal drain. To the extent that the IRS has the responsibility of policy making, it would face a similar choice.[155] The IRS would have to respond to this dilemma either by allowing every expenditure or implementing severe restrictions in promulgating regulations for the credit. However, pursuing either course to an extreme would have an adverse effect upon efficiency.

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153 *See id.* at 142-43. Present individual tax credits are not as onerous an administrative burden for the IRS because they are designed to promote more general goals of increasing the incomes of certain groups or avoiding taxation of some income rather than encouraging certain specific kinds of private expenditures. *See* I.R.C. §§ 31-45.

154 The first Brooke Amendment to the proposed Senate version of H.R. 10612, the Tax Reform Act of 1976, contained this type of provision in allowing a wide diversity of devices that might increase the efficiency of heating furnaces. *See* 122 CONG. REC. S10,281 (daily ed. June 23, 1976).

155 Present and proposed tax credits grant the IRS discretion to promulgate regulations on eligible expenditures, probably because Congress feels it lacks the expertise to formulate the standards on its own. *See* H.R. REP. No. 221, *supra* note 87, at 49; S. REP. No. 1181, 94th Cong., 2d Sess. 11 (1976).

Liberality is more acceptable as a tax policy when the goals of the incentive are broadly defined and where the taxpayer must already maintain separate records for the assets affected by the credit, as in the case of the general investment tax credit.[156] Developing incentive programs which focus on acquisition of assets for specified purposes, however, requires a high degree of administrative supervision. In his analysis of IRS treatment of tax-exempt organizations, Professor Lawrence Stone has documented that loose supervision can balloon the cost of a tax benefit.[157] Furthermore, unlike direct expenditures, tax credits cannot be denied taxpayers when the estimated cost of the benefit program is exceeded. Therefore, normal budgetary processes provide no ultimate check upon the size of the total government expenditure that may be permitted by administrative leniency.[158] On the other hand, if tax administrators choose to limit eligibility for the credit to only a few types of investments, the consumer may be deterred from considering the optimal investment mixes.[159] Furthermore, any attempt to narrow eligibility would inevitably restrict the scope of private sector innovation in energy conservation devices by building in an inflexible presumption in favor of prescribed methods. Thus the tax credit, if narrowly constricted, would fall short of its potential for encouraging energy conservation.

Even after a basic policy concerning the scope of the credit has been adopted, the IRS would still face severe difficulties in effecting this choice through the promulgation of regulations. The IRS could not administer an excessively broad definition of qualified expenditures like "items purchased for energy conservation" without a vast increase in its enforcement staff.[160]

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156 *See* P. HODGE & P. HAUSER, THE FEDERAL INCOME TAX IN RELATION TO HOUSING 98 (1968) (report to the National Commission on Urban Problems).

157 *See* Stone, *Tax Incentives as a Solution to Urban Problems*, 10 WM. & MARY L. REV. 647, 657 (1969).

158 The nature of the credit provides some constraint on the total cost. First, the proposed credits have involved only a percentage subsidy of energy conservation investments. Second, the size of the credit itself is limited. These factors would have some inhibiting influence upon the total expenditure. *See* H.R. REP. No. 221, *supra* note 87, at 48; S. REP. No. 938, *supra* note 94, at 24; FEDERAL ENERGY ADMINISTRATION, *supra* note 21, at 165. But superficial congressional review would make effective control of expenditures within these boundaries unlikely. *See* SURREY, *supra* note 91, at 144-45.

159 *See* note 46 *supra* and accompanying text.

160 New staff members would be required to apply the rule to particular cases in

Yet even a seemingly narrow definition, such as insulation, would raise the possibility of serious loopholes. This possibility would exist whenever eligibility depends upon the consumer's purpose for the investment. A taxpayer may buy an ornamental rug, for example, and claim it was purchased as floor insulation. This is a particularly difficult problem if the rug is really more efficient than some other form of floor insulation. Such questions of consumer intent would have to be determined on a case by case basis and could provoke extensive claims and challenges.[161]

To ensure the long-run efficiency of the tax credit, review procedures must be available to compare eligible credit expenditures with other alternatives as conditions change.[162] In its usual direct program assessment, Congress adjusts resource allocation according to needs and efficacy. But the tax credit mechanism would shield energy conservation expenditures from thorough congressional review by placing this responsibility upon tax committees which have neither the expertise nor the time that committees dealing with direct authorizations can deploy.[163] Thus, the threat of the tax credit, in addition to its absorption of government revenue, is that Congress would be

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advisory opinions, review tax returns and examine residences to insure that expenditures were actually made and the proper mix purchased, and bring court enforcement actions if necessary. The need for new personnel would vary directly with the ambiguity of the criteria because more individuals would be tempted to take advantage of the credit.

161 One example of this process has occurred under the tax exemption given to industrial revenue bonds which finance anti-pollution investments. Former Treasury Secretary Simon observed that the attempt to segregate the cost of such facilities into the cost of basic technology and the cost of pollution control technology has become an "administrative nightmare." *Tax Reform Act of 1975: Hearings on H.R. 10612 Before the House Comm. on Ways and Means, Part I*, 94th Cong., 1st Sess. 14 (1975) (statement of William Simon).

162 Devoting additional expenditures to purely educational programs, for example, may become desirable if energy prices undergo another large increase and provide a greater incentive for conservation investments. Pilot educational programs have already indicated the desirability of increased spending in this area. *See* note 62 *supra*. In any case, freezing in special tax credit provisions is undesirable when programs in complex policy areas are involved because the efforts are often experimental in nature. SURREY, *supra* note 91, at 146.

163 The tax committee must review an incentive periodically to ensure proper program implementation and to make necessary adjustments in the structure of the law to improve effectiveness. But tax committees lack non-tax expertise and are frequently content to let lobbyists influence the scope of the incentive, thereby neglecting review of program efficacy. SURREY, *supra* note 91, at 142-44.

satisfied with the credit alone and would not ensure that, over time, the credit is an efficient policy tool.[164]

A direct expenditure program could reduce many of the administrative problems involved in the energy conservation tax credit. First, distribution of benefits on the basis of need rather than on the basis of income removes one of the dilemmas in setting standards for allowable expenditures. Liberality will not drain the program budget if subsidies are directed only toward those who need the subsidy to make expenditures rather than toward all people who meet the income eligibility requirement. Second, agencies with experience managing grants for specific expenditures would develop the necessary standards.[165] The agengy concerned would have responsibility both for setting standards and for distributing payments and could thus coordinate these operations as the program progressed.[166] Finally, Congress itself would take a more active role in reviewing the effectiveness of the direct expenditure program in encouraging energy conservation and would be more likely to alter the structure or budget if program review showed revision to be beneficial.[167]

To sum up, the employment of the tax credit would raise substantial administrative problems for the IRS. Involved in energy policy choices for which it has little expertise, the IRS would have to make fundamental policy tradeoffs and effect those choices through regulations. It would also need to modify eligibility criteria to maximize effectiveness as conditions change, without the assistance of review by congressional committees outside the tax area. These administrative burdens are disturbing when compared to the probable relative efficiency of a direct grant program.

IV. Conclusion: Are There Feasible Alternatives?

Government subsidies for residential energy conservation remain an option the ultimate costs and possible benefits of

164 Alternatively, the Congress could try to adopt both a tax credit and a direct expenditure program. But this action would waste government funds and would make program evaluation difficult because the effects of the two subsidies on the incentive to invest in energy conservation could not be separated.

165 *See* Surrey & McDaniel, *supra* note 104, at 697.

166 *See* Surrey, *supra* note 91, at 142.

167 *Id.* 144-45.

which are highly uncertain. The absence of any assurance that expenditures to induce widespread participation in private energy conservation investments will yield the government an acceptable return in reduced energy consumption mandates an initial period of experimentation with various types and levels of subsidies. Information gained from this approach can be assessed both for the cost-effectiveness of energy conservation expenditures and the relative efficiencies of permanent subsidies and temporary grants and loan guarantees. Experience with varied types of investments can guide future decisions on the acceptability of forms of investment beyond simple insulation, such as clock thermostats and electronic igniters.[168] Finally, the maintenance of a sample of representative homes can allow continued testing of new devices and their cost-effectiveness at various levels of subsidization. A gradually expanding effort, then, would recognize that government activities in energy conservation must represent a choice among a number of competing alternatives that should be tailored to maximize energy conservation within current fiscal resource constraints.

Current government efforts in residential energy conservation provide an example of one possible approach to an expanded government role. The FEA Extension Act of 1976[169] instituted a program of limited governmental assistance to low-income homeowners through grants to state agencies.[170] Regulations for allowable types of conservation devices and equipment standards will be developed in consultation with HEW and the National Bureau of Standards.[171] The FEA will be

168 This type of experimentation could establish technical feasibility and allow for projections of market demand for new energy conservation technology. These two factors inhibited consideration of immediate subsidies for heating system energy conservation devices in the Senate tax credit proposal. *See* 122 CONG. REC. S13,218 (daily ed. Aug. 3, 1976) (remarks of Sen. Brooke). Government experiments in this form have proven to be effective in the past. *See* Rivlin, *How Can Experiments Be More Useful?*, 64 AM. ECON. REV., PAPERS AND PROCEEDINGS 346, 352 (1974).

169 Pub. L. No. 94-385, 90 Stat. 1125 (1976). Provisions relating to residential insulation assistance are contained in Title IV, §§ 401-422, the Energy Conservation in Existing Buildings Act of 1976.

170 The Act sought to deal with the problem of local diversity in housing conditions by distributing grants to qualified state agencies. Energy Conservation in Existing Buildings Act of 1976, Pub. L. No. 94-385, tit. IV, § 402(a)(4), 90 Stat. 1150 (1976) (to be codified in 42 U.S.C. § 6851).

171 *Id.* § 413(b)(2)(A), 90 Stat. 1153 (1976) (to be codified in 42 U.S.C. § 6863).

permitted to allocate grants among eligible state programs on the basis of relative need for weatherization assistance among low-income persons within each state or area.[172] Grants are not to exceed $400 per housing unit unless a state policy advisory council established under the Act[173] provides for a greater amount with respect to specific categories of units or materials.[174] The Administrator must submit to Congress and the President annual reports, including the results of periodic evaluations and monitoring.[175] Extension of the Act's experimental provisions to individuals with incomes above the poverty level[176] and more definite plans for program growth could smooth the transition from early development stage to a comprehensive subsidization of energy conservation investments.

Analysis of government incentives for residential energy conservation investments has revealed a number of important limits on the type of program that could be implemented. While the problems raised in the preceding discussion do not necessarily lead Congress toward the proper form of incentive, they do inform legislators on which approaches to avoid. Initially, difficulties related to cost-effectiveness and participation suggest that an immediate large-scale program of retrofit subsidies would fail to have an impact on energy conservation commensurate with the size of the program and the magnitude of government revenues necessary for its implementation. Although the retrofitting of existing homes has the potential for significant energy savings in the long run, many variables affect

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172 *Id.* § 415(b)(2)(A), 90 Stat. 1155 (1976) (to be codified in 42 U.S.C. § 6865). Factors that can be accounted and adjusted for include the number of dwelling units to be weatherized, the climatic conditions of the region, the type of weatherization work to be done, and other factors that the Administrator finds necessary to carry out the purposes of the Act. *Id.* § 414(a), 90 Stat. 1154 (1976) (to be codified in 42 U.S.C. § 6864).

173 The policy advisory council is designed to increase agency awareness of recipients' needs and to improve the quality of the investment assistance. The council must have special qualifications and sensitivity with respect to solving problems of low-income persons, be broadly representative of agencies delivering welfare services to the poor, and be responsible for advising state agencies on proper allocation of financial assistance. *Id.* § 414(b)(1), 90 Stat. 1154 (1976) (to be codified in 42 U.S.C. § 6864).

174 *Id.* § 415(c), 90 Stat. 1156 (1976) (to be codified in 42 U.S.C. § 6865).

175 *Id.* § 421, 90 Stat. 1158 (1976) (to be codified in 42 U.S.C. § 6871).

176 Under the present act, the FEA can make grants only to individuals below the poverty line or whose income makes them eligible for receipt of Social Security payments. *See id.* §§ 412(7), 413(a), 90 Stat. 1152 (1976) (to be codified in 42 U.S.C. §§ 6862, 6863).

both the efficiency of expenditures and the willingness of consumers to inform themselves of available conservation opportunities. These variables complicate government attempts to locate homes with signficant conservation potential and subsidize the efforts of their owners to realize this potential. The existence of such complexities requires that the subsidy be limited in scope until thorough study can indicate the best allocation and distribution of incentive funds for individual energy conservation investments. Any government effort to bypass this learning process will achieve energy savings at a high cost in wasted government revenues.

The second lesson of the analysis is that tax credits must be resisted as an instrument for encouraging residential energy conservation investments. Tax credits are an undesirable form of subsidy because they introduce characteristics to the incentive that could interfere with its effectiveness, equity, and administration. Considered as a budgetary item, the tax credit is an inefficient form of subsidy, because its income eligibility standards exclude many needy recipients and reward those who do not need the incentive. In addition, the tax credit varies the size of benefits to individuals for reasons unrelated to the goals of the program. As a pivotal element in the tax system, the tax credit also would inhibit the progress of further simplification of the tax structure. Finally, the tax credit promises administrative difficulties for the IRS, an agency not experienced in the particular substantive policy area promoted by the credit.

While direct expenditures may not escape all of the problems that face government incentives for residential energy conservation and may in fact create their own set of concerns, they do appear to offer a greater potential for successful operation as energy conservation incentives. Direct expenditures would be more efficient than tax credits because they could be directed toward consumers who could make investments with significant energy-saving potential rather than toward taxpayers merely with capital to invest and tax liability to reduce. Though even a direct grant program would run the risk of providing windfalls to some persons who would invest regardless of any government assistance, a comprehensive regulatory scheme could allow for annual adjustments in standards and eligibility requirements to reduce this source of waste.

Direct expenditures are also less harmful to tax equity since they do not trigger the kinds of public concerns that make tax equity an important political issue. Distribution of direct assistance is separated from the collection of tax revenues. Direct expenditure programs distinguish among potential recipients not on the basis of arbitrary income levels but on grounds related to program goals of maximizing cost-effective energy conservation investments in existing homes.

Finally, direct expenditures would be less of an administrative problem than tax credits because they would be managed by an agency with the specialized skills necessary to deal with the complexities of energy conservation in existing homes as well as the welfare aspects of distributing subsidies to a large number of individual homeowners. Such an agency is likely to be far better qualified than the Internal Revenue Service to handle these substantive matters. Thus, any future government approaches to energy conservation incentives should focus on improving direct assistance programs rather than on employing the indirect incentive provided by tax credits.

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STATUTORY COMMENT

PARENS PATRIAE ANTITRUST ACTIONS FOR TREBLE DAMAGES

EUSTACE A. OLLIFF III*

Attempts to find a remedy in the federal courts for classes of consumers with small claims have run into considerable difficulty in the recent past. Last year, Congress attempted to overcome some of these obstacles through an amendment of the antitrust laws that permits a new use of an old concept — the state attorney general as parens patriae. *Mr. Olliff examines these amendments in detail, points out their uses and limitations, and analyzes some of the major issues within the statute, such as "passing on," multiple liability, and "fluid recovery," that are certain to arise during initial litigation.*

The Hart-Scott-Rodino Antitrust Improvements Act of 1976[1] has been hailed as the most important antitrust legislation in decades,[2] ranking in prominence with the Clayton and Sherman Acts.[3] Supporters contend that "for the first time since enactment of the Sherman Act in 1890, consumers will have a realistic opportunity to recover damages for antitrust violations, particularly price-fixing."[4] The most controversial[5] pro-

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1 Pub. L. No. 94-435, 90 Stat. 1383 (1976).

The Act has three major parts. Title I amends the Antitrust Civil Process Act, 15 U.S.C. § 1311 (1970). Title II requires certain corporations to give premerger notification to the Justice Department. Title III, (amending 15 U.S.C. §§ 12-16 (1970)) (codified at 15 U.S.C. §§ 15c-26 (Supp. 1977)), authorizes treble damage suits on behalf of consumers by state attorneys general. This Comment is concerned only with Title III.

2 N.Y. Times, Aug. 1, 1976, § 4, at 14, col. 1 (editorial); ANTITRUST & TRADE REG. REP. (BNA), Sept. 21, 1976, at A-1 (statement of Rep. Peter W. Rodino, Jr., chairman of the House Committee on the Judiciary); Kennedy, *The Death of Valiant*, NEW TIMES, Jan. 21, 1977, at 68 ("the most far-reaching changes . . . in many years.").

3 ANTITRUST & TRADE REG. REP. (BNA), Sept. 21, 1976, at A-17 (statement of Bernard Nash, Assistant Counsel of the Antitrust and Monopolies Subcommittee of the Senate Committee on the Judiciary).

4 *Id. See also* H.R. REP. NO. 499, 94th Cong., 1st Sess. 4 (1975) [hereinafter cited as HOUSE REPORT].

5 *See* 34 CONG. Q. 2578 (Sept. 18, 1976); 122 CONG. REC. S15,318 (daily ed. Sept. 7, 1976) (remarks of Sen. Abourezk); N.Y. Times, Sept. 1, 1976, at 1, col. 1; *id.*, June 11, 1976, § 4, at 1, col. 1. *See also* Handler & Blechman, *Antitrust and the Consumer Interest: The Fallacy of Parens Patriae and a Suggested New Approach*, 85 YALE L.J. 626 (1976);

vision of the act authorizes state attorneys general to sue *in parens patriae*[6] for treble damages on behalf of citizens[7] of their states injured by violations of the Sherman Act.[8] The *parens patriae* provisions, contained in Title III of the new act, authorize the estimation of aggregate damage to consumers in price-fixing cases.[9] The distribution of damage awards is to be accomplished in part by the much-discussed but as yet untested innovation known as "fluid recovery."[10]

Critics of Title III contend that the *parens patriae* concept raises significant practical and constitutional objections.[11] This Comment will evaluate the new legislation in light of these criticisms.

I. Background

Consumers ultimately bear the economic burden of many antitrust violations through higher prices. Frequently, antitrust violations injure thousands or even millions of consumers, each

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Handler, *Antitrust — The Scapegoat for the Nation's Ills,* 30 Rec. A.B. City N.Y. 640 (1975); Malina & Blechman, *Parens Patriae Suits for Treble Damages Under the Antitrust Laws,* 65 Nw. U.L. Rev. 193 (1970).

6 *In parens patriae* literally means "as parent of the country." Black's Law Dictionary 1269 (4th ed. 1968).

7 Although the language of the Act is ambiguous, the legislative history unequivocally shows that the remedy is available only to individual consumers, and not to corporations and other business entities. *See* §§ 4C(a)(1)(B)(ii), 4G(3), 15 U.S.C. §§ 15c(a)(1)(B)(ii), 15g(3) (Supp. 1977); House Report, *supra* note 4, at 9-10; *Hearings on H.R. 12528 and 12921 Before the Monopolies and Commercial Law Subcomm. of the House Comm. on the Judiciary,* 93d Cong., 2d Sess. 39-40 (1974) [hereinafter cited as *1974 House Hearings*] (statement of Thomas E. Kauper); 122 Cong. Rec. S8269 (daily ed. May 28, 1976) (remarks of Sen. Philip Hart). Accordingly, the word "consumers" in this Comment will refer only to natural persons.

8 15 U.S.C. §§ 1-3 (1970).

9 § 4D, 15 U.S.C. § 15d (Supp. 1977). "Price-fixing" includes both horizontal and vertical price-fixing. 122 Cong. Rec. H10,296 (daily ed. Sept. 16, 1976) (remarks of Rep. Rodino).

10 § 4E, 15 U.S.C. § 15e (Supp. 1977). The "fluid recovery" approach, which seeks to distribute a damage award to a group corresponding as closely as possible to the group of individuals actually injured, has never been used in a litigated case. The concept has, however, been employed with general success in distributing settlement funds. *See, e.g., In re* Antibiotics Antitrust Actions, 333 F. Supp. 278 (S.D.N.Y.), *mandamus denied on other grounds,* 449 F.2d 119 (2d Cir. 1971); *Hearings on S. 1284 Before the Antitrust and Monopoly Subcomm. of the Senate Comm. on the Judiciary,* 94th Cong., 1st Sess. 327, 342-43 (1975) [hereinafter cited as *Senate Hearings*] (statement of David I. Shapiro describing the various ways states used recoveries from the *Antibiotics Antitrust Actions, supra.*).

11 Handler & Blechman, *supra* note 5, at 635. *See generally* Malina & Blechman, *supra* note 5; Curtis, *The Checkered Career of Parens Patriae: The State as Parent or Tyrant?,* 25 DePaul L. Rev. 895, 914 (1976).

in relatively small amounts.[12] Yet these violations are far from insignificant. If an antitrust violation results in an overcharge of only twenty-five cents on a consumer item, and 200 million such items are sold, the aggregate illegal profits are a staggering $50 million.[13] These costs add up. A former Assistant Attorney General in charge of the Antitrust Division of the Justice Department has estimated that the lack of economic competition costs consumers $80 billion per year.[14]

Largely because of the broad scope of small individual damages, no individual consumer can realistically be expected to bring suit. The consumer typically has no investigative resources or incentive to uncover an antitrust violation. Even if a violation becomes known, consumers lack the personal incentive and resources to engage in protracted litigation to recover their own small individual losses.

The effort to develop a procedural device to enable groups of consumers to assert small individual antitrust claims began with the 1966 amendments to Rule 23 of the Federal Rules of Civil Procedure. The results of that initial attempt have been disappointing, possibly because it is not certain that the drafters intended to create such a device at all.[15] Large consumer classes predicated upon small individual claims were often denied certification because of what were seen as insurmountable problems of manageability.[16] Then the Supreme Court dealt a reeling blow to hopes for an effective consumer remedy in 1974. In *Eisen v. Carlisle & Jacquelin,*[17] the Court interpreted Rule 23 to require class action plaintiffs to provide individual pre-litigation notice to all identifiable members of the class regardless of the cost involved.[18] As the Director of the Federal Trade Commission's Bureau of Competition later explained:

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12 *See 1974 House Hearings, supra* note 7, at 27 (statement of Thomas E. Kauper).

13 *See* S. REP. No. 803, 94th Cong., 2d Sess. 39-40 (1976) [hereinafter cited as SENATE REPORT]; HOUSE REPORT, *supra* note 4, at 6.

14 *See* 122 CONG. REC. S7932 (daily ed. May 25, 1976) (remarks of Sen. Abourezk, citing Thomas E. Kauper).

15 *See Advisory Committee Note,* 38 F.R.D. 69, 103 (1966) (1966 amendment of FED. R. CIV. P. 23); Kaplan, *Continuing Work of the Civil Committee: 1966 Amendments of the Federal Rules of Civil Procedure* (pt. 1), 81 HARV. L. REV. 356, 393 (1967).

16 HOUSE REPORT, *supra* note 4, at 6; Note, *Parens Patriae: An Effective Consumer Remedy in Antitrust,* 16 WASHBURN L.J. 135, 144 (1976).

17 417 U.S. 156 (1974).

18 *Id.* at 175-77.

> The practical effect of *Eisen* is to eliminate the Rule 23 class action as a feasible means for recovery by a large class of individuals each of whom has sustained relatively minor damages. In situations where the costs of giving notice to the class are much greater than any individual class member's stake in the outcome of the action, it is unlikely that any suit will be brought. The person who deals in certain types of consumer goods, where each transaction may involve only a few dollars, can now fix prices, relatively free from the fear of substantial treble damage actions.[19]

Other methods of antitrust enforcement are equally unlikely to fill the gap. Under the Sherman Act, the Justice Department may bring criminal prosecutions against violators.[20] Congress recently increased the penalties to a maximum fine of one million dollars for corporations and possible jail terms of three years and fines of up to one hundred thousand dollars for individuals.[21] But the gains to be realized from large scale price-fixing agreements far exceed the amount of possible fines[22] and few company officers ever receive prison sentences.[23] Thus, the deterrent value of criminal sanctions is very

19 *Hearings on H.R. 38 and H.R. 2850 Before the Monopolies and Commercial Law Subcomm. of the House Comm. on the Judiciary*, 94th Cong., 1st Sess. 16 (1975) [hereinafter cited as *1975 House Hearings*] (statement of James T. Halverson).

20 15 U.S.C. §§ 1-3 (Supp. 1977).

21 Antitrust Penalties & Procedures Act of 1974, Pub. L. No. 93-528, 88 Stat. 1708 (amending 15 U.S.C. §§ 1-3 (1970)).

22 The aggregate total of fines in criminal antitrust cases in the period between 1965 and 1974 was $11.9 million. As a percentage of the minimum amount of commerce involved in those cases, this amounted to only one-twentieth of one percent (.05%). *Senate Hearings, supra* note 10, at 377 (Table I).

23 According to Senator Tunney, in the entire history of the antitrust laws only thirty-five persons were ever jailed. Tunney, *A View from the Senate, Symposium: The Effectiveness of the Private Treble Damages Action as an Antitrust Enforcement Mechanism*, 8 Sw. U.L. Rev. 505, 510 (1976) [hereinafter cited as *Symposium*]. A more recent *Wall Street Journal* article puts the number at fifty-four, for an aggregate total of seventy-six months in sentences. Schellhardt, *Stiffer Sentences for Price-Fixers?*, Wall St. J., Dec. 17, 1976, at 16, col. 3. In any event, Assistant Attorney General Donald I. Baker is reported as having calculated that persons who illegally hunt game birds are more likely to go to jail than are price-fixers. Indeed, despite an extraordinary personal appearance by Mr. Baker to plead for prison sentences of at least eighteen months for forty-seven executives convicted of price-fixing in the paperboard box industry, a federal judge recently refused to incarcerate most of them. He initially imposed sentences of ten days or less on ten defendants, and incarcerated five others for periods ranging from thirty to sixty days. Orland, *Jail for Corporate Price Fixers?*, N.Y. Times, Dec. 12, 1976, § 3, at 16, col. 3. The judge subsequently reduced even these light penalties for six of the fifteen defendants. In return, they agreed to participate in an alternative sentencing program designed to help ex-convicts find jobs in Chicago. Antitrust & Trade Reg. Rep. (BNA), March 1, 1977, at A-8. The three-year antitrust penalty remains thus far an

speculative. Much the same can be said about the injunctive relief available to the government under the Clayton Act.[24] An injunction by itself does nothing to divest violators of the fruits of their illegal conduct. Furthermore, since most government antitrust civil suits and criminal prosecutions are settled by consent decrees or *nolo contendere* pleas,[25] neither of which have collateral effect,[26] consumers are not even relieved of the burden of independently establishing the antitrust violation. The limited resources of the Antitrust Division of the Justice Department only make vigorous enforcement more unlikely.

Frustrated by the ineffectiveness of both federal and private enforcement, the State of California brought an action on behalf of its citizens who were purchasers of snack foods, alleging that they were victims of a price-fixing conspiracy by manufacturers. But the Court of Appeals for the Ninth Circuit held in *California v. Frito-Lay, Inc.*[27] that the treble damage *parens patriae* action could not be justified by the historical recognition of the *parens patriae* role of the states[28] and thus could not be upheld in the absence of specific statutory authority.[29] Title III is a direct

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empty threat. *But cf. id.* at F-1 (Justice Department guidelines for sentencing requests, recommending eighteen-month "base" sentences for Sherman Act felons).

In addition, a study by Professor Richard Posner shows that in a four-year period in the mid-1960's, 46 of 320 corporations convicted of criminal antitrust violations had previously been found guilty of similar violations. Posner, *A Statistical Study of Antitrust Enforcement*, 13 J. L. & ECON. 365, 394-95 (1970). This recidivism rate suggests that the threat of criminal sanctions may not have been an effective deterrent to antitrust violators in the past. Ferber, *Introductory Comments, Symposium, supra*, at 508. *See also Senate Hearings, supra* note 10, at 208-12 (statement of Professor Walter Adams).

24 Clayton Act § 16, 15 U.S.C. § 26 (1970).

25 Posner, *supra* note 23, at 374.

26 *See* Clayton Act §5(a), 15 U.S.C. § 16(a) (1970).

27 474 F.2d 774 (9th Cir.), *cert. denied*, 412 U.S. 908 (1973).

28 For a historical discussion of the *parens patriae* doctrine in American law, *see* Hawaii v. Standard Oil Co., 405 U.S. 251, 257-60 (1972). In *Hawaii*, the Supreme Court held that section 4 of the Clayton Act did not authorize a state to sue for damages to its "general economy." The Court specifically reserved judgment on whether a *parens patriae* suit on behalf of injured consumers could be maintained. Although such a claim had originally been made by the State of Hawaii, it was dismissed by the district court and not asserted on appeal. *See* 405 U.S. at 254; 22 CATH. U.L. REV. 156, 159 (1972). The *Hawaii* holding is not disturbed by Title III. Similarly, Title III does not affect a state's traditional power to seek injunctive relief against antitrust violations. 122 CONG. REC. H10,295-96 (daily ed. Sept. 16, 1976) (remarks of Rep. Rodino).

29 474 F.2d at 777. *See also In re* Multidistrict Vehicle Air Pollution, 481 F.2d 122, 130 (9th Cir.), *cert. denied*, 414 U.S. 1045 (1973). A similar result was reached by the Eighth Circuit in Pfizer, Inc. v. Lord, 522 F.2d 612 (8th Cir. 1975), *cert. denied*, 424 U.S. 950 (1976), relying in part upon the Ninth Circuit opinions. *Pfizer*, however, was an attempted *parens patriae* suit by foreign governments rather than states, and its holding will not be affected by Title III.

response to the judicial invitation extended in *Frito-Lay*. It is intended to overturn the result in *Frito-Lay* by allowing state attorneys general to act as consumer advocates in the enforcement process.[30]

II. The Provisions of Title III

Title III amends section 4 of the Clayton Act by providing a remedy in addition to that section's existing treble damage provisions.[31] Subsection 4C(a),[32] the heart of Title III, authorizes state attorneys general[33] to bring *parens patriae* actions for treble damages on behalf of consumers[34] for injury to their property[35] caused by any violation of the Sherman Act.[36] This creates no new substantive liability. Instead, it provides an additional enforcement mechanism that will significantly enhance the likelihood of treble damage recoveries against violators.[37] As one commentator has observed:

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30 House Report, *supra* note 4, at 8.

31 15 U.S.C. § 15 (1970).

32 15 U.S.C. § 15c(a) (Supp. 1977).

33 "State attorney general" is defined in § 4G(1), 15 U.S.C. § 15g(1) (Supp. 1977), and includes such private counsel as might be retained by a state's chief legal officer, unless retained on a percentage contingent fee basis.

34 *See* note 7 *supra*. There were several reasons for the exclusion of suits on behalf of businesses. First, it was thought that consumers were most in need of representation. Second, it was believed that business entities, in general, have more financial incentive, more accurate purchasing records, and better resources, so that existing enforcement mechanisms (*i.e.*, individual suits and class actions) are more adequate. Third, there was some concern that businesses were likely to have so much at stake that they might desire more control over litigation affecting their interests than a state attorney general would provide. *See* House Report, *supra* note 4, at 7-10.

35 This language is significant for what it does not include. The corresponding language of section 4 of the Clayton Act, 15 U.S.C. § 12 (1970), authorizes private treble damage actions for injuries to business as well as property interests. This omission underscores the limitation of Title III suits to consumer injuries. *See* 122 Cong. Rec. H10,295 (daily ed. Sept. 16, 1976) (remarks of Rep. Rodino).

36 15 U.S.C. §§ 1-3 (1970). The original measures introduced into Congress provided a wider scope to statutory *parens patriae* suits. Generally, they would have allowed an action for any antitrust violation. *See, e.g.*, H.R. 8532, 94th Cong., 1st Sess. § 4C(a) (1975), 122 Cong. Rec. H2074 (daily ed. March 18, 1976). The scope of the statute was subsequently narrowed to Sherman Act violations. Indeed, President Ford wished to restrict Title III even further. He wrote to Representative John J. Rhodes on March 17, 1976: "The present bill is too broad in its reach and should be narrowed to price-fixing violations. This would concentrate the enforcement on the most important antitrust violations." 122 Cong. Rec. S7940 (daily ed. May 25, 1976) (quoted by Sen. Thurmond). *See also Senate Hearings, supra* note 10, at 119 (letter from Thomas E. Kauper).

37 House Report, *supra* note 4, at 9; 122 Cong. Rec. H10,300 (daily ed. Sept. 16, 1976) (remarks of Rep. Flowers).

> The *parens patriae* action can be viewed as no more than a "super class action." Just as the class action serves to surmount some of the pragmatic barriers to suit where separate actions are impractical, *parens patriae* claims surmount the barriers of notice and litigation costs which render the traditional class action inappropriate for consumer compensation for antitrust violations.[38]

Yet the statute is also concerned with protecting the defendant from multiple liability. Subsection 4C(a)(1)[39] excludes from any damage award amounts already won in other suits, or those that are properly allocable to injuries sustained by a business entity.[40]

Subsection 4C(b)(1)[41] provides for notice by publication in all cases where such notice would withstand constitutional scrutiny. Since average consumers will be involved in most cases, publication might well include use of radio and television, as well as the traditional newspaper advertisement, at the court's discretion.[42] Only upon a finding that notice solely by publication would deny due process of law is the court to direct any further notice.[43] Thus, the statute displaces the notice provisions of Rule 23,[44] as interpreted in *Eisen*,[45] insofar as treble damage *parens patriae* suits are concerned. Cases in which notice by publication would be constitutionally insufficient should be rare.

Subsections 4C(b)(2) and (3)[46] permit any individual consumer to opt out of the *parens patriae* action and provide that the final disposition of the case will be res judicata as to all consumers who do not choose to exclude themselves. Although unlikely to be often invoked,[47] the opt-out provision provides protection for the potential claimant's interest in prosecuting his own action. The res judicata effect, of course, is designed to insulate the defendant against multiple liability.

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38 Comment, *Wrongs without Remedy: The Concept of Parens Patriae Suits for Treble Damages under the Antitrust Laws*, 43 S. CAL. L. REV. 570, 593 (1970).
39 15 U.S.C. § 15c(a)(1) (Supp. 1977).
40 *See* text accompanying notes 135-62 *infra*.
41 15 U.S.C. § 15c(b)(1) (Supp. 1977).
42 HOUSE REPORT, *supra* note 4, at 12.
43 *Id.*
44 FED. R. CIV. P. 23(c)(2).
45 *See* text accompanying notes 17-19 *supra*.
46 15 U.S.C. §§ 15c(b)(2), (3) (Supp. 1977).
47 SENATE REPORT, *supra* note 13, at 46.

Subsection 4C(c)[48] prohibits dismissal or compromise of a *parens patriae* action without the approval of the court. In addition, when an action is to be dismissed or compromised, notice must be given in such manner as the court directs.[49] These provisions should adequately protect consumers from unfair settlements by allowing them to object to a proposed settlement and by making it incumbent upon the court to approve a proposed settlement "only if it is fair, reasonable, and in the interests of justice."[50]

Subsection 4C(d)(1)[51] provides that the plaintiffs' attorneys' fee shall be determined by the court.[52] Subsection 4C(d)(2)[53]

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48 15 U.S.C. § 15c(c) (Supp. 1977).

49 Although not explicitly stated, the intent here is presumably to provide notice by publication under standards similar to those set forth in section 4C(b)(1), 15 U.S.C. § 15c(b)(1) (Supp. 1977), for notice upon institution of a suit. *Cf.* FED. R. CIV. P. 23(e) (notice of settlement to be provided as court directs).

50 HOUSE REPORT, *supra* note 4, at 13. *See generally Developments in the Law — Class Actions*, 89 HARV. L. REV. 1318, 1536-76 (1976).

51 15 U.S.C. § 15c(d)(1) (Supp. 1977).

52 The Senate report stated that attorney's fees were to be approved under the standards articulated in Lindy Bros. Builders, Inc. v. American Radiator & Standard Sanitary Corp., 487 F.2d 161 (3d Cir. 1973) [hereinafter cited as *Lindy I*], and City of Detroit v. Grinnell Corp., 495 F.2d 448 (2d Cir. 1974). SENATE REPORT, *supra* note 13, at 52. In *Lindy I*, the Third Circuit directed lower courts to use the number of hours worked multiplied by reasonable hourly rates, taking into consideration each attorney's expertise and status, as the "lodestar" in calculating a reasonable fee from a class action settlement fund. Once the analysis is anchored to this relatively objective basis, said the court, adjustments are permitted to reflect the contingent nature of success and the quality of the work performed. 487 F.2d at 167-68. In *City of Detroit*, the Second Circuit adopted the *Lindy I* approach. After surveying some judicial and lay criticisms of the "contingent fee syndrome," the court concluded that *Lindy I*'s "lodestar" guidelines were necessary to restore integrity to fee determinations. 495 F.2d at 469-71. *Accord*, Grunin v. International House of Pancakes, 513 F.2d 114, 127-28 (8th Cir.), *cert. denied*, 423 U.S. 864 (1975). *See generally* Comment, *Attorneys' Fees in Individual and Class Action Antitrust Litigation*, 60 CALIF. L. REV. 1656, 1668 (1972) (amount of work performed, rather than the amount of the recovery, should be the most important factor in fee awards). The particularity of the inquiry under the *Lindy I* formula requires an evidentiary hearing. *Lindy I*, 487 F.2d at 169; *City of Detroit*, 495 F.2d at 471-74. *See also* Perkins v. Standard Oil Co., 399 U.S. 222, 223 (1970) ("The amount of the award . . . should, as a general rule, be fixed . . . after hearing evidence as to the extent and nature of services rendered."). Moreover, the district court must specify the calculations leading to the award, together with reasons for adjustments to the "lodestar" amount, to facilitate appellate review for abuse of discretion. *Lindy I*, 487 F.2d at 169; *City of Detroit*, 495 F.2d at 473. The *Lindy* case was recently appealed again. 540 F.2d 102 (3d Cir. 1976) [*Lindy II*]. In *Lindy II* the Third Circuit reaffirmed its approach in *Lindy I*, adding some refinements and elaborations. *Id.* at 108-18. For a case illustrating the degree of specificity and scrutiny shown by the district courts, *see In re* Penn Central Sec. Litigation, 416 F. Supp. 907 (E.D. Pa. 1976) (Lord, C.J.) (awarding numerous fees from settlement proceeds of securities litigation arising from a railroad bankruptcy). *See generally Developments in the Law — Class Actions*, 89 HARV. L. REV. 1318, 1606-18 (1976).

53 15 U.S.C. § 15c(d)(2) (Supp. 1977).

gives the court discretion to award attorneys' fees to a prevailing defendant if the state attorney general "has acted in bad faith, vexatiously, wantonly, or for oppressive reasons" in bringing or prosecuting the *parens patriae* suit. Both of these provisions were included to mitigate the possibility of *parens patriae* abuse by politically ambitious state attorneys general.[54]

Section 4D[55] is of central importance.[56] It provides for the proof of aggregate damages by statistical or sampling methods in any price-fixing case. Aggregation of damages is crucial to the effectiveness of *parens patriae* actions in mass consumer antitrust cases. It removes the impracticable burden of proving injury to each individual consumer, thus streamlining the trial of such cases. But the restriction of the use of this innovation to price-fixing cases[57] is the major limitation of the *parens patriae* legislation.[58] In practice, except for suits against alleged price-fixers, proof of damages in treble damage *parens patriae* actions will remain virtually impossible in cases when a great number of consumers have suffered relatively small individual damages.[59]

When the individual injuries are of a larger magnitude, however, *parens patriae* suits may still be useful, even where the violation alleged is not price-fixing. Though not authorizing aggregation of damages in suits alleging other Sherman Act violations,[59a] Title III eliminates the class certification issues

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54 *See* text accompanying notes 72-85 *infra*.

55 15 U.S.C. § 15d (Supp. 1977).

56 *See* 122 CONG. REC. H10,299 (daily ed. Sept. 16, 1976) (remarks of Rep. Flowers).

57 A controversy currently exists over whether courts have the inherent power to use aggregation generally as a technique for measuring antitrust damages. *Compare* Handler, *Twenty-Fourth Annual Antitrust Review*, 72 COLUM. L. REV. 1, 34-42 (1972) *with* Freeman, *Class Actions from the Plaintiff's Viewpoint*, 38 J. AIR L. & COM. 401, 409-12 (1972). *Cf.* Pettway v. American Cast Iron Pipe Co., 494 F.2d 211 (5th Cir. 1974) (Title VII suit allowing class-wide calculation of damages without express statutory authority). Congress did not intend to resolve this issue. Instead, it authorized the use of aggregation techniques in *parens patriae* suits against price-fixers, but left open the possibility of further expansion of the use of damage aggregation in other cases. 122 CONG. REC. S15,417 (daily ed. Sept. 8, 1976) (remarks of Sen. Philip Hart).

58 122 CONG. REC. S15,336 (daily ed. Sept. 7, 1976) (remarks of Sen. Gary Hart). The actual inhibition here might well be somewhat overstated, since state antitrust enforcers tend to concentrate on price-fixing violations in any event. *See* note 176 *infra* and accompanying text. For a summary of the tortuous series of compromises that put section 4D into its final form, *see* 122 CONG. REC. S15,320 (daily ed. Sept. 7, 1976) (remarks of Sen. Abourezk).

59 *See* HOUSE REPORT, *supra* note 4, at 4-5.

59a *But see* note 57 *supra*.

that must be litigated in a suit under Rule 23.[59b] The significance of this benefit to the state attorney general should not be underestimated: sidestepping the litigation of Rule 23 issues may shave years from the trial of an antitrust suit.[59c] A *parens patriae* suit is also freed from the hazards of dismissal by an illiberal judicial determination of unmanageability,[59d] non-superiority,[59e] or other failure to comply with the strictures of Rule 23.

Section 4E[60] contemplates "fluid recovery" by providing that any amounts remaining after the satisfaction of individual claims shall be distributed as the court may direct or deposited in the state treasury as general revenues. It should be noted that this provision, unlike section 4D,[61] is not on its face restricted to price-fixing suits. As a practical matter, however, its application will be unlikely in other cases, since the necessary individual proof of damages, even if possible, will almost certainly result in the total recovery going to satisfy individual claimants.

Section 4F,[62] providing for notice to and assitance by the United States Attorney General, reflects a desire that the federal government cooperate fully with state antitrust enforcers.[63] It is to be expected that this cooperation and coordination of efforts will greatly facilitate effective antitrust enforcement.

The definition of "state attorney general" in section 4G(1) effectively precludes percentage contingency fees as compensation to attorneys retained to assist the state attorneys general in *parens patriae* litigation. Indeed, no contingency fee arrange-

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59b FED. R. CIV. P. 23(a), (b).

59c ANTITRUST & TRADE REG. REP. (BNA), Jan. 4, 1977, at D-3 (response of Bernard Nash).

59d FED. R. CIV. P. 23(b) (3) (D). *See e.g.*, Eisen v. Carlisle & Jacquelin, 479 F.2d 1005, 1016-18 (2d Cir. 1973), *vacated and remanded on other grounds*, 417 U.S. 156 (1974).

59e FED. R. CIV. P. 23 (b) (3). *See, e.g.*, Kamm v. California City Dev. Co., 509 F.2d 205, 210-13 (9th Cir. 1975).

60 15 U.S.C. § 15e (Supp. 1977).

61 15 U.S.C. § 15d (Supp. 1977).

62 15 U.S.C. § 15f (Supp. 1977).

63 HOUSE REPORT, *supra* note 4, at 16-17. *See also* ANTITRUST & TRADE REG. REP. (BNA), Jan. 4, 1977, at D-2 (reporting resolution of the National Association of Attorneys General providing for cooperation among states).

ment of any sort is allowed without court approval pursuant to section 4C(d)(1).[64] These restrictions were intended to promote greater accountability in *parens patriae* actions by preventing wholesale delegation of control over such suits to private counsel. Section 4H,[65] intended as a further check on irresponsible lawsuits, allows a state legislature to revoke the authority of the state attorney general to bring *parens patriae* actions under Title III.[66]

According to Section 304 of Title III, the new amendments "shall not apply to any injury sustained prior to [September 30, 1976,] the date of enactment of this Act." This section contains a possible ambiguity, *i.e.*, whether a *parens patriae* suit can be brought against a violator based upon conduct concluded before enactment, when injury continues beyond the effective date.[67] Although the language suggests that *parens patriae* actions should redress injuries caused by prior conduct but sustained after enactment, such a construction might violate the intent to exclude retroactive application.[68]

The final significant change wrought by Title III is the au-

64 Section 4G(1), 15 U.S.C. § 15g(1) (Supp. 1977), provides in pertinent part:

> (1) The term "state attorney general" . . . does not include any person employed or retained on —
>
> (A) a contingency fee based on a percentage of the monetary relief awarded under this section; or
>
> (B) any other contingency fee basis, unless the amount of the award of a reasonable attorney's fee to a prevailing plaintiff is determined by the court under section 4C(d)(1) [15 U.S.C. § 15c(d)(1) (Supp. 1977)].

65 15 U.S.C. § 15h (Supp. 1977).

66 *See* text accompanying notes 72-79 *infra*.

67 *See* ANTITRUST & TRADE REG. REP. (BNA), Dec. 7, 1976, at A-17 (statement of Bernard Nash).

68 The original Senate bill applied only to "any cause of action accruing subsequent to the date of enactment." The House bill had no comparable provision. 122 CONG. REC. S15,324 (daily ed. Sept. 7, 1976) (remarks of Sen. Abourezk). The language was altered in an *ad hoc* "conference" committee of supporters from both Houses which met to resolve inconsistencies between the House and Senate versions of the antitrust legislation in order to avoid one of two threatened filibusters by opponents. *Id.* at S15,318. Therefore, no examination of the legislative history is conclusive. A sensible interpretation, however, was offered by Senator Abourezk. Supporting passage, he argued that an action would lie for a price-fixing conspiracy which began prior to the date of enactment only if it continued after enactment. Damages could be assessed only for injuries occurring after enactment, but evidence of the formation of the conspiracy before the effective date could be used to prove its existence afterwards. 122 CONG. REC. S15,412 (daily ed. Sept. 8, 1976). There appears to be nothing unfair about imposing treble damages on a violator who fails to terminate his illegal conduct when his exposure to liability is increased. *But see* 122 CONG. REC. S15,315 (daily ed. Sept. 7, 1976) (remarks of Sen. Hruska).

thorization in section 302(3) for the award of attorneys' fees to prevailing plaintiffs in all private antitrust suits for injunctive relief, a provision rather obscurely included under the act's "conforming amendments." The injunctive provisions of section 16 of the Clayton Act[69] had been silent on the subject of awarding attorneys' fees and this had prompted a split among the lower courts[70] until the Supreme Court ruled in *Alyeska Pipeline Service Co. v. Wilderness Society*[71] that federal courts have no general power to award attorneys' fees in the absence of statutory authorization. Since the cost of an injunctive suit is often prohibitive for potential plaintiffs, this authorization of attorneys' fees awards should reinstate a proper incentive for meritorious antitrust injunctive suits.[71a]

III. Important Issues Raised by Title III

A. *Abuse by Politically Ambitious Attorneys General*

One of the major issues during legislative consideration of the *parens patriae* concept was the risk of its irresponsible use by politically ambitious state attorneys general. The specter of abuse raised by opponents of the legislation[72] left its imprint on various provisions of the statute as finally enacted.

A direct and rather drastic penalty in the statute for a bad faith or oppressive suit is the court's discretionary power to award attorneys' fees to the prevailing defendant.[73] Yet bad

69 15 U.S.C. § 26 (1970).

70 *Compare* International Tel. & Tel. Corp. v. General Tel. & Elec. Corp., 518 F.2d 913, 940 (9th Cir. 1975) (allowing attorneys' fees, but discouraging their award in the usual case), *and* Calnetics Corp. v. Volkswagen of America, Inc., 353 F. Supp. 1219, 1224-25 (C.D. Cal. 1973) (allowing attorneys' fees on "private attorney general" theory), *rev'd*, 532 F.2d 674 (9th Cir. 1976) (reversal based on intervening decision in Alyeska Pipeline Serv. Co. v. Wilderness Soc'y, 421 U.S. 240 (1975)), *with* Decorative Stone Co. v. Building Trades Council, 23 F.2d 426, 428 (2d Cir.), *cert. denied*, 277 U.S. 594 (1928) (disapproving attorneys' fees).

71 421 U.S. 240 (1975), *noted in The Supreme Court, 1974 Term*, 89 Harv. L. Rev. 47, 170-82 (1975).

71a The Fourth Circuit recently gave the 1976 Act retroactive application in an award of attorneys' fees emphasizing a "private attorney general" justification. Alphin v. Henson, Antitrust & Trade Reg. Rep. (BNA), March 8, 1977, at E-1 (4th Cir. Feb. 22, 1977) (per curiam).

72 *See, e.g.*, House Report, *supra* note 4, at 24-25 (minority views); 122 Cong. Rec. S15,314-16, S15,327 (daily ed. Sept. 7, 1976) (remarks of Sen. Hruska).

73 § 4C(d)(2), 15 U.S.C. § 15c(d)(2) (Supp. 1977). See Antitrust & Trade Reg. Rep. (BNA), Dec. 7, 1976, at A-21 (statement of John DeSiderio).

faith is inherently difficult, if not impossible, to prove.[74] Another provision allows a state legislature to restrain an overzealous attorney general by revoking the applicability of Title III within the state.[75] Like the defendant's attorneys' fee penalty, however, this safeguard is likely to be invoked only after a most conspicuous case of abuse.

More practical safeguards are the flat ban on percentage contingency fees for outside counsel employed by a state attorney general[76] and the requirement of court approval of any other contingency fee arrangement.[77] One reason for these provisions was a desire to encourage the development of in-house state antitrust capabilities.[78] But more telling was the explanation offered by the House Report:

> Suits in the name of a State are an exercise of State power. The committee believes that the States should exercise control over the use of State power not only in theory but in fact. If a State attorney general were able to delegate this function to private counsel on a contingency fee basis, the political and financial stake he would experience in otherwise prosecuting the action would be substantially diminished. And thus State power would be exercised without the guarantee of State supervision.[79]

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74 The language of § 4C(d)(2), 15 U.S.C. § 15c(d)(2) (Supp. 1977), parallels that of the Supreme Court in Hall v. Cole, 412 U.S. 1, 5 (1973) (quoting 6 MOORE'S FEDERAL PRACTICE ¶ 54.77[2], at 1709 (2d ed. 1972), in which numerous cases are cited). In very few cases have courts awarded attorneys' fees under the bad faith rationale. *But see Fourth Circuit Review*, 33 WASH. & LEE L. REV. 415, 438-56 (1976) (Fourth Circuit has apparently decided to institute a more liberal practice of shifting attorneys' fees under the bad faith rationale).

75 § 4H, 15 U.S.C. § 15h (Supp. 1977).

76 § 4G(1)(A), 15 U.S.C. § 15g(1)(A) (Supp. 1977).

77 § 4G(1)(B), 15 U.S.C. § 15g(1)(B) (Supp. 1977).

78 HOUSE REPORT, *supra* note 4, at 17, 27. State antitrust enforcement has been negligible for many years. In the last decade, activity and interest on the state level have increased; yet as recently as July, 1975, only twenty-four states had an attorney assigned full-time to antitrust enforcement. A handful of jurisdictions had significant antitrust staffs: New York, 12 attorneys; California and New Jersey, 10 each; Ohio, 7; Illinois, Wisconsin, and Puerto Rico, 5 each. Rashid, *A Government Perspective, Symposium, supra* note 23, at 517. *See also* NATIONAL ASSOCIATION OF ATTORNEYS GENERAL, STATE ANTITRUST LAWS AND THEIR ENFORCEMENT 37-44 (1974).

The shortcomings of present state in-house enforcement capability may be remedied by enactment of the proposed Antitrust Enforcement Authorization Act of 1975, S. 1136, 94th Cong., 1st Sess. (1975), 121 CONG. REC. S21,962-63 (daily ed. Dec. 12, 1975), which proposes to give the states $30 million over a three year period as "seed money" to beef up state antitrust capability. *See* ANTITRUST & TRADE REG. REP. (BNA), Dec. 16, 1975, at A-19. This measure has passed the Senate, but has not yet been considered by the House of Representatives. *Id.*, Jan. 11, 1977, at A-3.

Although concerns over irresponsible use of a potentially oppressive measure are certainly understandable, they should not be controlling. First, the argument that power may be abused proves too much. If carried to its logical conclusion, it would counsel elimination of all state antitrust laws and their enforcement by state officers.[80] Second, as Judge Miles Lord has said, "it is difficult to imagine a better representative of the retail consumers within a state than the state's attorney general."[81] A state attorney general, after all, is normally an elected and accountable public officer under a duty to promote the public interest.[82] He is in a better position than officials in Washington to assess the propriety of action against state-wide or local violations.[83] Moreover, federal authorities, with their limited resources, tend to concentrate on larger violations and cannot always prosecute more local cases.[84] In sum, the benefits of *parens patriae*, both compensatory and deterrent, outweigh the risk of serious misuse.[85]

B. *The Constitutional Issue of Notice*

Title III artfully avoids the substantial constitutional problems of notice to represented parties. While expressing a strong preference for notice by publication, section 4C(b)(1)[86] gives the court broad discretion to direct further notice whenever necessary to avoid a denial of due process.

Notice by publication alone is not ruled out for *parens patriae* actions by *Eisen v. Carlisle & Jacquelin*,[87] because that decision was based upon a construction of the language of Rule 23(c)(2) of the Federal Rules of Civil Procedure specifying the notice required in Rule 23(b)(3) class actions.[88] Therefore, the balanc-

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79 HOUSE REPORT, *supra* note 4, at 18.

80 *See 1975 House Hearings, supra* note 19, at 32 (testimony of James T. Halverson).

81 *In re* Antibiotics Antitrust Actions, 333 F. Supp. 278, 280 (S.D.N.Y.), *mandamus denied on other grounds*, 449 F.2d 119 (2d Cir. 1971). *Accord*, MANUAL FOR COMPLEX LITIGATION § 1.44 (CCH ed. 1973).

82 HOUSE REPORT, *supra* note 4, at 5. *But see id.* at 24-25 (minority views).

83 *1975 House Hearings, supra* note 19, at 15 (statement of James T. Halverson).

84 *Id.* at 37.

85 *Id.* at 31 (statement of Rep. Rodino).

86 15 U.S.C. § 15c(b)(1) (Supp. 1977).

87 417 U.S. 156 (1974). *See* text accompanying notes 17-19 *supra*.

88 *See* 417 U.S. at 177.

ing approach of *Mullane v. Central Hanover Bank & Trust Co.*,[89] calling for "notice reasonably calculated, under all the circumstances, to apprise interested parties,"[90] remains sound law. And when the requirement of individual written notice would frustrate a major legislative or judicial policy, that countervailling policy is entitled to considerable weight in deciding whether publication notice will suffice.[91] The history of the antitrust laws, particularly those against price-fixing, fairly shouts a policy of vigorous enforcement that would be frustrated by categorical rejection of publication notice in *parens patriae* suits. Moreover, a state attorney general is likely to be a more conscientious representative of the state's consumers than would a private class action representative. Because this state officer is presumably better able to "fairly and adequately protect the interests of the class,"[92] a failure to reach each and every consumer should not be so objectionable.[93]

There might be exceptional circumstances that would necessitate further notice. A good example was raised during the Senate hearings by Lewis A. Engman, former Chairman of the FTC:

> I can . . . hypothesize a kind of situation where there may be relatively small damage or injury to a broad class of individuals and a substantially greater injury to a much narrower class of individuals.
>
> I raise the question whether . . . a court might not find that due process requires something greater than just publication notice if it were to bar the rights of someone in this smaller class.
>
> It is conceivable that there could be damages flowing from purchase, let us say, of a kind of drug which is taken on a

89 339 U.S. 306 (1950).

90 *Id.* at 314.

91 *See id.* at 313. *See generally* Armstrong v. Manzo, 380 U.S. 545, 550 (1965); Hinds, *To Right Mass Wrongs: A Federal Consumer Class Action Act*, 13 HARV. J. LEGIS. 776, 801-07 (1976).

92 FED. R. CIV. P. 23(a)(4).

93 *See Developments in the Law — Class Actions*, 89 HARV. L. REV. 1318, 1402-16 (1976) (notice ancillary to requirement of adequate representation); R. POSNER, ECONOMIC ANALYSIS OF LAW 350 (1972) (A class action attorney lacks accountability "because his private incentive diverges from the social goal . . . [which] provides a strong practical argument for permitting a state to sue as *parens patriae*."). *Cf.* Larionoff v. United States, 533 F.2d 1167, 1184-86 (D.C. Cir.), *cert. granted*, 97 S. Ct. 522 (1976), and cases collected therein (notice discretionary in (b)(1) and (b)(2) class actions).

> broad scale in relatively small amounts and by a more limited number of people in much larger amounts . . . .[94]

When such conditions are present, due process may well require that the court order further notice. But given the traditionally flexible approach that has characterized the judicial evolution of due process, no constitutional impediment should be erected to preclude use of publication notice in the vast majority of cases.[95]

C. *Aggregation of Damages*

Section 4D authorizes the aggregation of damages through statistical or other methods in price-fixing cases.[97] In a price-fixing suit the only method of determining the total effect upon consumers of a conspiracy will often be to measure total illegal overcharges in a defendant's gross sales during the relevant period.[98] That this determination will necessarily be an estimate should not cause serious concern. As the Supreme Court observed in the *Story Parchment* case[99] over thirty-five years ago:

> Where the tort itself is of such a nature as to preclude the ascertainment of the amount of damages with certainty, it would be a perversion of fundamental principles of justice to deny all relief to the injured person, and thereby relieve the wrongdoer from making any amend for his acts . . . . [T]he risk of uncertainty should be thrown upon the wrongdoer instead of upon the injured party.[100]

Moreover, as the Court declared fifteen years later:

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94 *Senate Hearings, supra* note 10, at 64.

95 HOUSE REPORT, *supra* note 4, at 12; SENATE REPORT, *supra* note 13, at 59-60 (letter from Professor Arthur Miller of Harvard Law School). *But see 1975 House Hearings, supra* note 19, at 89 (statement of William R. Jentes) (*Eisen* makes published notice insufficient to satisfy due process). *Eisen* itself was unusual in that the defendants had records identifying by name and address about 2,250,000 odd-lot purchasers of the approximately six million in the plaintiff class. 417 U.S. at 166-67. In the typical mass consumer suit, such records probably would not exist because most purchases would have been made in cash transactions.

96 15 U.S.C. § 15d (Supp. 1977).

97 It is, however, possible that courts will find inherent power to use the technique in other situations. *See* note 57 *supra*. If this should occur, the problems of using statistical methods to prove aggregate damages could conceivably be greater in suits not based on alleged price-fixing.

98 HOUSE REPORT, *supra* note 4, at 14.

99 Story Parchment Co. v. Paterson Parchment Paper Co., 282 U.S. 555 (1931).

100 *Id.* at 563.

> Any other rule would enable the wrongdoer to profit by his wrongdoing at the expense of his victim. It would be an inducement to make wrongdoing so effective and complete in every case as to preclude any recovery, by rendering the measure of damages uncertain. Failure to apply it would mean that the more grievous the wrong done, the less likelihood there would be of a recovery.
>
> The most elementary conceptions of justice and public policy require that the wrongdoer shall bear the risk of uncertainty that his own wrong has created.[101]

Section 4D therefore seems fully consistent with long-standing Supreme Court precedent permitting damages to be proved in antitrust cases by a "just and reasonable estimate of the damages based upon relevant data."[102] This precedent should be more than enough to overcome recently raised constitutional objections.[103]

A genuine problem, however, is presented when consumers do not deal directly with the alleged price-fixer. It then becomes necessary to prove that the initial overcharge reached consumers in whole or in part by being passed down the chain of distribution.[104]

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101 Bigelow v. RKO Radio Pictures, Inc., 327 U.S. 251, 264-65 (1946).

102 *Id.* at 264. *See also* Zenith Radio Corp. v. Hazeltine Research, Inc., 395 U.S. 100, 123-24 (1969); Continental Ore Co. v. Union Carbide & Carbon Co., 370 U.S. 690, 697-701 (1962); Hinds, *supra* note 91, at 810-16.

103 In Eisen v. Carlisle & Jacquelin, 479 F.2d 1005, 1018 (2d Cir. 1973), *vacated and remanded on other grounds*, 417 U.S. 156 (1974), Judge Medina said: "Even if amended Rule 23 could be read so as to permit any such fantastic procedure, the courts would have to reject it as an unconstitutional violation of the requirement of due process of law." For criticism of this dictum, *see* Hinds, *supra* note 91, at 811-12; Note, *Managing the Large Class Action*: Eisen v. Carlisle & Jacquelin, 87 HARV. L. REV. 426, 453-54 (1973); *Developments in the Law — Class Actions*, 89 HARV. L. REV. 1318, 1523-25 (1976). A similar constitutional contention, that aggregation of damages without proof from each aggrieved individual violates the seventh amendment's jury trial guarantee, *see* Handler, *The Shift from Substantive To Procedural Innovations in Antitrust Suits — The Twenty-Third Annual Antitrust Review*, 71 COLUM. L. REV. 1, 7-8 (1971), has been rejected by one court and several commentators. *See In re* Antibiotics Antitrust Actions, 333 F. Supp. 278, 287-89 (S.D.N.Y.), *mandamus denied on other grounds*, 449 F.2d 119 (2d Cir. 1971); 7A C. WRIGHT & A. MILLER, FEDERAL PRACTICE & PROCEDURE: CIVIL § 1784 (1972); *Developments in the Law, supra.*

104 When price-fixing occurs at the retail level, of course, there is no problem of proving "passing on."

Opponents of *parens patriae* have argued that its supporters labor under a false conception of the number of price-fixing conspiracies that directly affect consumers. They point to data indicating that only 45 of 346 Justice Department suits in the past five years have alleged horizontal price-fixing at the retail level. *See* Handler & Blechman, *supra* note 5, at 635-36. But this argument confuses the lack of Justice

The leading case in this area is *Hanover Shoe, Inc. v. United Shoe Machinery Corp.*[105] There the plaintiff, a shoe manufacturer, claimed that the defendant's illegal marketing policy for its shoe manufacturing machinery had raised the total price plaintiff had paid for use of the machinery. The defendant argued that the plaintiff had suffered no injury since it had passed on any overcharge to its own customers in the form of higher shoe prices.

The Court soundly rejected this defense. But in so doing, Justice White used language that bodes ill for suits on behalf of ultimate purchasers alleging price-fixing somewhere up the chain of distribution. The Court intimated that even in the best possible circumstances, where "it could be shown that the buyer raised his price in response to, and in the amount of, the overcharge," it would still be impossible to prove causation, for "there would remain the nearly insuperable difficulty of demonstrating the [first purchaser] could not or would not have raised his prices absent the overcharge or maintained the higher price had the overcharge been discontinued."[106]

Since *Hanover Shoe* was handed down, a controversy has raged over its meaning. Some commentators and courts have read the opinion to bar indirect consumer suits because of the supposedly inherent impossibility of reconstructing the pricing decisions in intervening markets with any reasonable certainty.[107] Other courts and commentators have criticized the application of *Hanover Shoe* to deny relief to indirect consumers.[108]

Department action with the non-existence of violations. Price-fixing occurs frequently, often on a large scale, and is regularly uncovered by the Justice Department. Kauper, *Antitrust Enforcement from the Inside*, 45 ANTITRUST L.J. 154, 154-55 (1976). The extent of price-fixing "is coming as a shock to everybody," according to Ira M. Millstein, a New York lawyer, referring to close to one hundred grand juries probing into alleged price-fixing at various levels at the end of last year. BUS. WEEK, Dec. 20, 1976, at 16. But federal authorities must by necessity devote their resources to the larger antitrust violations, and "run of the mill" price-fixing goes unprosecuted. *1975 House Hearings, supra* note 19, at 37 (testimony of James T. Halverson).

105 392 U.S. 481 (1968).

106 *Id.* at 493.

107 *See, e.g.*, Philadelphia Hous. Auth. v. American Radiator & Standard Sanitary Corp., 50 F.R.D. 13, 19-31 (E.D. Pa. 1970) (dismissing suit of homebuyers alleging price-fixing by plumbing fixtures manufacturers), *aff'd sub nom.* Mangano v. American Radiator & Standard Sanitary Corp., 438 F.2d 1187 (3d Cir. 1971); Handler & Blechman, *supra* note 5, at 638-49.

108 *See, e.g., In re* Master Key Antitrust Litigation, [1973-2] Trade Cas. ¶ 74,680, (D. Conn. 1973), *appeal dismissed*, 528 F.2d 5 (2d Cir. 1975); *In re* Western Liquid Asphalt

They stress that *Hanover Shoe* involved the defensive use of the "passing on" argument in an attempt to thwart recovery against a proven antitrust violator, while indirect consumer suits involve the offensive use of "passing on" to relieve a violator of his illgotten gains.[109] Furthermore, it is argued, a blanket refusal to permit ultimate consumers to prove that an overcharge was passed on in whole or in part will secure a substantial and unnecessary windfall to middlemen in many cases.[110]

To be sure, proof of "passing on" to the ultimate consumer through even one or two levels of a chain of distribution will not be an easy or certain task. But several considerations deserve attention here. First, Congress has in Title III expressed its strong commitment to consumer relief.[111] Second, the only other choices appear to be allowing the guilty party to enjoy the fruits of his illegal conduct or bestowing an unearned windfall upon middlemen.[112] Finally, econometric and statistical methods, already sophisticated enough to handle most problems of proof, can be expected to improve further.[113] In view of these

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Cases, 487 F.2d 191, 196-200 (9th Cir. 1973), *cert. denied sub nom.* Standard Oil Co. v. Alaska, 415 U.S. 919 (1974) [hereinafter cited as *Western Liquid Asphalt Cases*]; Boshes v. General Motors Corp., 59 F.R.D. 589, 592-99 (N.D: Ill. 1973); Comment, Mangano *and the Ultimate-Consumer Standing: The Misuse of the* Hanover *Doctrine*, 72 COLUM. L. REV. 394 (1972).

109 Some opinions, in a burst of candor, suggested that *Hanover Shoe* must be interpreted in light of the Supreme Court's "result orientation." *In re* Master Key Antitrust Litigation, [1973-2] Trade Cas. ¶ 74,680, at 94,978 (D. Conn. 1973) (quoting West Virginia v. Chas. Pfizer & Co., 440 F.2d 1079, 1087 (2d Cir.), *cert. denied* 404 U.S. 871 (1971)). This approach has been roundly criticized by Handler & Blechman, *supra* note 5, at 643. The House Committee on the Judiciary, however, also recognized a pro-enforcement policy in *Hanover Shoe*, citing *Western Liquid Asphalt Cases, supra* note 108, with approval. HOUSE REPORT, *supra* note 4, at 6 n.4.

110 *See* Comment, *supra* note 108, at 413.

111 *See* HOUSE REPORT, *supra* note 4, at 7 (Title III intended to remedy the situation where "wholesalers and retailers have passed along all or most of the cost of a violation to the consumer.").

112 One commentator has aptly observed that middlemen will often choose not to sue if it will disturb an advantageous relationship with the alleged price-fixer or if they are controlled by their suppliers at a higher level in the chain of distribution. Note, *The Proposed Antitrust Parens Patriae Act: Overdue Antitrust Relief for Ultimate Consumers*, 45 U. CIN. L. REV. 219, 230 (1976). In such a case, refusal to allow a treble damage *parens patriae* action on behalf of ultimate consumers will necessarily permit a price-fixer to enjoy the fruits of his illegal conduct.

113 *See* 16N J. VON KALINOWSKI, ANTITRUST LAWS AND TRADE REGULATION § 110.01[2], at 110-11 (1976) ("Computers can be an effective tool in presenting market information, *damage calculations,* or any other data which involves statistical analysis. . . .") (emphasis added). *See generally* MANUAL FOR COMPLEX LITIGATION § 2.71 (CCH ed. 1973).

factors, it seems only sensible to allow "passing on" to be proved by plaintiffs through a "just and reasonable estimate of the damage based on relevant data,"[114] even if the measurement is not as exact as one might ideally desire, so long as there is no risk that the defendant will be subjected to duplicative liability.[115]

The ultimate resolution of this question may be forthcoming if the Supreme Court reaches the merits in the *Illinois Brick* case,[116] in which certiorari was recently granted. In that case, the State of Illinois brought suit on behalf of itself and other governmental entities in the Chicago area, alleging price-fixing among concrete-block manufacturers in violation of section 1 of the Sherman Act. All but a few of the represented plaintiffs had purchased the blocks indirectly as components of buildings constructed under contracts awarded pursuant to competitive bidding.[117] The district court granted the defendants' motion for summary judgment against these indirect purchasers. It distinguished the standing to sue of two kinds of indirect purchasers: "final consumers" and "ultimate consumers."[118] According to the district court, final consumers acquire goods in the same condition as sold by the manufacturer, and numerous cases had granted standing to such persons.[119] Ultimate consumers, however, acquire finished products from middlemen that have altered or added to the goods received from the manufacturer, as in the case at bar. The court noted that these ultimate consumers have rarely been granted standing under section 4 of the Clayton Act,[120] and granted the motion for

114 Bigelow v. RKO Radio Pictures, Inc., 327 U.S. 251, 264 (1946). Of course, there will be situations where a reasonable estimate is impossible. *See* note 133 *infra*.

115 *See* McGuire, *The Passing-On Defense and the Right of Remote Purchasers to Recover Treble Damages Under* Hanover Shoe, 33 U. PITT. L. REV. 177, 192-93 (1971).

116 Illinois v. Ampress Brick Co., 536 F.2d 1163 (7th Cir.), *cert. granted sub nom.* Illinois v. Illinois Brick Co., 97 S. Ct. 352 (1976).

117 Under a "cost-plus" contract, the burden of proving "passing on" would, of course, be easily satisfied. *Cf.* Hanover Shoe, Inc. v. United Shoe Mach. Corp., 392 U.S. 481, 494 (1968) ("passing on" defense might be permitted where an overcharged buyer has a pre-existing "cost-plus" contract, thus making it easy to prove that it has not been damaged).

118 Illinois v. Ampress Brick Co., 67 F.R.D. 461, 466 (N.D. Ill. 1975). Here the court relied on Comment, Mangano *and Ultimate Consumer Standing: The Misuse of the* Hanover *Doctrine*, 72 COLUM. L. REV. 394, 395 (1972). *See* 67 F.R.D. at 466 n.3.

119 *See, e.g.*, Boshes v. General Motors Corp., 59 F.R.D. 589 (N.D. Ill. 1973); *Western Liquid Asphalt Cases, supra* note 108.

120 *But see In re* Master Key Antitrust Litigation, [1973-2] Trade Cas. ¶ 74,680 (D.

summary judgment, finding the ultimate consumers' alleged injuries "too remote . . . to provide legal standing."[121]

The Court of Appeals for the Seventh Circuit reversed,[122] relying on the broad language of section 4 of the Clayton Act[123] and the policy encouraging enforcement of the antitrust laws. It rejected the lower court's use of the rubric of standing.[124] Instead, said the court, the problem of proving injury from an antitrust violation is a factual question and the difficulty of proof did not warrant dismissal of the action.[125]

The rationale of the Seventh Circuit has much to offer. It avoids the artificiality of the district court's analysis, which would disallow suits simply because the product carrying the overcharge was in some way altered or incorporated into something else. Under the lower court's approach, Hawaiian pineapple growers who conspired to fix prices for their product would presumably be able to defeat an action on behalf of purchasers of canned pineapple (assuming the canning was done by a middleman), while a suit on behalf of purchasers of fresh pineapple would go forward. This would be so even though fresh pineapple, a luxury item, may be subject to more elastic consumer demand (*i.e.*, more responsive to changes in price) than is canned pineapple. If so, the grocer would be less able to pass on the overcharge to fresh pineapple buyers, and consumers of canned pineapple will be more likely to bear the burden of the price-fixing. Yet under the district court's rationale in *Illinois Brick*, canned pineapple purchasers would be denied a day in court. Such a result reflects a lack of clear thinking about both economics and law. The retail price of a product which is not physically altered still reflects the cost of transportation, handling, and overhead. The form of the

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Conn. 1973) (hardware components in government buildings); Carnivale Bag Co. v. Slide-Rite Mfg. Corp., 395 F. Supp. 287 (S.D.N.Y. 1975) (zipper component manufacturers sued by manufacturers of products into which zippers were incorporated).

121 67 F.R.D. at 468.

122 536 F.2d 1163 (1976).

123 *Id.* at 1165 (quoting 15 U.S.C. § 15: "*Any person* who shall be injured in his business or property by reason of anything forbidden in the antitrust laws may sue therefore . . . ." (emphasis supplied by the court)).

124 536 F.2d at 1166. *See also* Handler & Blechman, *supra* note 5, at 644-45.

125 536 F.2d at 1166.

product is immaterial because it is the overcharge, not the appearance of the affected product, that is critical to liability.[126]

There is further reason to believe that the Supreme Court may be disposed to affirm the basic rationale of the Seventh Circuit. In *Perkins v. Standard Oil Co.*,[127] the Supreme Court was faced with the offensive use of the "passing on" argument in a suit under section 2a of the Robinson-Patman Act[128] alleging that a discriminatorily lower price was passed on through intermediaries to the plaintiff's retail competitor. The Supreme Court reversed the court of appeals, which had considered the competitor too far removed from the supplier,[129] and held that there was sufficient evidence to support a conclusion that the price advantage had been passed on.[130] The Court failed to distinguish or even cite *Hanover Shoe*, which may be an indication that *Hanover Shoe* cannot be so broadly construed as to dictate that "passing on" can never be proven by indirect purchasers as a matter of law.[131]

Even if the Supreme Court should see fit to reverse the court of appeals in *Illinois Brick*, it need not foreclose actions by all indirect purchasers. It could adopt the approach used by the district court, which, while artificial, would at least preserve the viability of suits by "final purchasers," so that treble damage *parens patriae* suits could still be maintained against price-fixing manufacturers of milk, potato chips, gasoline, and many other consumer commodities.[132] Or it might approve the analysis

126 *See* Rodos & McMahon, *Standing to Sue of Subsequent Purchaser for Antitrust Violations — The Pass-On Issue Reevaluated,* 20 S.D. L. REV. 107, 122 & n.95 (1975).

127 395 U.S. 642 (1969).

128 15 U.S.C. § 13(a) (1970).

129 396 F.2d 809 (9th Cir. 1968). Similarly, the district court in *Illinois Brick* dismissed the suit as to ultimate purchasers because their injuries were deemed "too remote." 67 F.R.D. at 468.

130 395 U.S. at 647-48 ("If there is sufficient evidence in the record to support an inference of causation, the ultimate conclusion as to what the evidence proves is for the jury."). *Cf. FTC v. Fred Meyer, Inc.*, 390 U.S. 341 (1968) ("customer" under the Robinson-Patman Act § 2(d), 15 U.S.C. § 13(a) (1970), includes an indirectly-purchasing retailer who competes with a directly-purchasing retailer).

131 *See* McGuire, *supra* note 115, at 193-94; *1975 House Hearings, supra* note 19, at 54 (questions of Rep. Rodino).

132 It has been suggested that Title III creates a new cause of action, thus avoiding the "passing on" problem and other possible obstacles to indirect purchasers that some courts have found under section 4 of the Clayton Act. *See* ANTITRUST & TRADE REG. REP. (BNA), Jan. 4, 1977, at D-2, 3; *Senate Hearings, supra* note 10, at 477-80 (statement

used by the Seventh Circuit, but conclude that "passing on" in that particular case could not reasonably be proven.[133] Such an outcome would leave room for the lower courts to make a case-by-case determination of the plaintiffs' ability to muster sufficient proof.[134]

D. *Avoidance of Multiple Liability*

The problem of multiple liability has two distinct facets in a *parens patriae* suit. First, one must be sure that a state attorney general will not be awarded a recovery that duplicates whatever is won by consumers who choose to sue independently. As in Rule 23 class actions,[135] any risk of duplicative recovery in this context is precluded by an "opt-out" provision.[136] Any consumers who wish to prosecute their own lawsuits may do so, but if a treble damage *parens patriae* suit is instituted they will be bound by its outcome unless they have excluded themselves under section 4C(b)(2).[137] Whatever damages are properly allocable to those who have "opted out" are to be excluded from the *parens patriae* award.[138] Similarly, the relief granted in the *parens*

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of Prof. Jonathan Rose). Yet whether one considers Title III as creating a new cause of action for the state or merely authorizing a process by which the state can enforce the many individual causes of action under section 4, it seems clear that the "passing on" problem must still be faced and that the *Illinois Brick* decision will be relevant, whatever its outcome. Section 4 of the Clayton Act creates a cause of action for "[a]ny person who shall be injured in his business or property by reason of anything forbidded in the antitrust laws. . . ." 15 U.S.C. § 15 (1970). Similarly, section 4C of Title III, 15 U.S.C. § 15c (Supp. 1977), authorizes state attorneys general to sue for monetary relief "for injury sustained by . . . natural persons to their property by reason of any violation of [the Sherman Act]." Thus it will still be necessary to show that consumers were in fact injured and that the injury was caused by the antitrust violation. When indirect consumers are involved, this will necessarily require proof of "passing on."

133 In some suits the chain of causation down an extended line of distribution will be so attenuated that the state attorney general could not possibly show "passing on" and would be dismissed on the pleadings. An example given during floor debate on Title III was a suit on behalf of moviegoers who purchase popcorn against price-fixing manufacturers of ball-bearings which were incorporated into the popcorn vending machines. 122 CONG. REC. H10,295 (Sept. 16, 1976) (remarks of Rep. Rodino).

134 *See generally* McGuire, *supra* note 115, at 203. The issue is not one of standing to sue. Illinois v. Ampress Brick Co., 536 F.2d 1163, 1166 (7th Cir.), *cert. granted sub nom.* Illinois Brick Co. v. Illinois, 97 S. Ct. 352 (1976); *Western Liquid Asphalt Cases, supra* note 108, at 199.

135 FED. R. CIV. P. 23(c)(2)(A).

136 § 4C(b)(2), 15 U.S.C. § 15c(b)(2) (Supp. 1977).

137 § 4C(b)(3), 15 U.S.C. § 15c(b)(3) (Supp. 1977).

138 § 4C(a)(1)(B)(i), 15 U.S.C. § 15c(a)(1)(B)(i) (Supp. 1977).

patriae action must be reduced by the amount of any award in previous consumer suits.[139]

The second facet of the multiple liability problem arises only in suits where "passing on" is at issue.[140] There is a consensus that the problems of proving "passing on" must be handled in such a way as to avoid duplicative recoveries for the same overcharge by persons at different levels in the chain of distribution.[141] Sections 4C(a)(1)(A) and (B)(ii)[142] attempt to do so by excluding from a *parens patriae* recovery any amount which duplicates an amount already awarded for the same injury, or which is properly attributable to any business entity.[143] Of course, there is no chance of multiple liability when all potential plaintiffs have joined in a single action. Once a violation has been proven and the amount of the overcharge established, the task is simply one of allocating the recovery, and there is no risk of further liability to the defendant. Things are not so simple, however, when separate actions are instituted at varying times by persons at different levels in the chain of distribution.

If a direct purchaser sues first, *Hanover Shoe* should preclude the defendant from raising "passing on" as a defense.[144] This will both foster vigorous antitrust enforcement and avoid a

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139 § 4C(a)(1)(A), 15 U.S.C. § 15c(a)(1)(A) (Supp. 1977).

140 *See* text accompanying notes 104-34 *supra.*

141 *See, e.g., Western Liquid Asphalt Cases, supra* note 108, at 198-200; Carnivale Bag Co. v. Slide-Rite Mfg. Corp., 395 F. Supp. 287, 291-92 (S.D.N.Y. 1975); Boshes v. General Motors Corp. 59 F.R.D. 589, 596-97 (N.D. Ill. 1973); SENATE REPORT, *supra* note 13, at 44-45.

142 15 U.S.C. § 15c(a)(1)(A), B(ii) (Supp. 1977).

143 The Senate report states that the legislative intent is to codify the holding in the *Western Liquid Asphalt Cases, supra* note 108, at 201. SENATE REPORT, *supra* note 13, at 44.

144 The only exception would be where the plaintiff's relationship to his customers falls within the cost-plus contract exception. *See* note 117 *supra.*

The Supreme Court in *Hanover Shoe* noted that to allow the assertion of a "passing on" defense in most cases would preclude any action at all because consumers did not have an adequate remedy. *See* 392 U.S. at 494. But it does not follow that *Hanover Shoe* should be abandoned because *parens patriae* actions now make a consumer remedy far more likely. It is by no means certain that state attorneys general will have the resources or the desire to bring suit in every case. To allow "passing on" to be asserted in every case brought by middlemen would exalt the possibility of a *parens patriae* suit into an extremely heavy burden for other plaintiffs, requiring "additional long and complicated proceedings involving massive evidence and complicated theories." 392 U.S. at 493. Such a result would frustrate the strong enforcement policy that was the central tenet of *Hanover Shoe.*

needless automatic proliferation of issues and parties in most cases. The plaintiff may properly recover the entire amount of any overcharge, and under section 4C(a)(1)(A)[145] the defendant will be insulated from any liability to consumers represented by a state attorney general. There is a strong policy behind this provision. Once defendants have paid the direct purchaser because they were precluded from contesting the "passing on" issue, they should not be subjected to further litigation on the theory that the overcharge was in fact passed on to consumers.

Even though no expansion of the suit is necessary to prevent unfairness to the defendant, it may well be desirable to include the state attorney general as *parens patriae* in order to avoid piecemeal litigation and windfalls to middlemen. If so, there are several procedural devices available. First, the defendant could try to bring in all potential plaintiffs through statutory interpleader.[146] Second, timely intervention by the state attorney general on behalf of those further down the chain of distribution, even if not qualifying for intervention as of right under Rule 24(a), should be liberally granted as permissive intervention under Rule 24(b).[147] Third, separate actions by indirect purchasers, including suits by different attorneys general, can be transferred and consolidated with the direct purchaser's suit in a single district.[148] Congress apparently believed that consolidation was highly desirable, for it granted to the Judicial Panel on Multidistrict Litigation the power to order all *parens patriae* actions consolidated for all purposes, including

145 15 U.S.C. § 15c(a)(1)(A) (Supp. 1977).

146 28 U.S.C. § 1335 (1970). The usefulness of interpleader in this situation, however, is uncertain. Even though the Supreme Court in State Farm Fire & Cas. Co. v. Tashire, 386 U.S. 523 (1967), gave statutory interpleader a liberal construction in areas such as diversity of citizenship, *id.* at 530-31, it also warned that interpleader was not to be used as "an all-purpose 'bill of peace' . . . capable of sweeping dozens of lawsuits . . . against alleged tort feasors," *id.* at 535-36 (footnote omitted), into a single proceeding. Moreover, lack of complete diversity, Strawbridge v. Curtiss, 7 U.S. (3 Cranch) 267 (1806), will usually make interpleader under Fed. R. Civ. P. 22 unavailable. Finally, the defendant as a practical matter will want to interplead all possible plaintiffs only when a later suit is all but certain. *See* McGuire, *supra* note 115, at 197-98 & n.65.

147 *See* Note, *Standing to Sue in Antitrust Cases: The Offensive Use of Passing On*, 123 U. PA. L. REV. 976, 996 (1975).

148 Either the regular transfer provisions of 28 U.S.C. § 1404(a) (1970) or the special powers of the Judicial Panel on Multidistrict Litigation, 28 U.S.C. § 1407 (1970), over pretrail discovery and other matters, could be used here. *See generally* Note, *The Judicial Panel and the Conduct of Multidistrict Litigation*, 87 HARV. L. REV. 1001 (1974).

trial, in one place.[149] If none of these devices is sufficient, as a last resort the court could require that the fund be paid into court or put in escrow until the four-year statute of limitations[150] has run,[151] or that the direct purchaser post a bond to satisfy any future actions by indirect purchasers.[152]

If a state attorney general sues first, similar considerations should permit intervention by the immediate purchaser, or consolidation if he institutes a separate action. In addition, statutory interpleader is available to the defendant.[153] If none of these devices is used, it appears that the first purchaser may be a party who is to be joined if feasible under Rule 19(a).[154] To qualify, the absentee must be one who "claims an interest relating to the subject of the action and is so situated that the disposition of the action in his absence may . . . leave any of the . . . parties subject to a substantial risk of incurring double, multiple, or otherwise inconsistent obligations. . . ."[155] A failure to join the first purchaser could indeed leave the defendant subject to a substantial risk of multiple liability since there is no statutory prohibition against a duplicative exaction by the immediate purchaser as there is with the state attorney general as *parens patriae*.[156] The "claims an interest" requirement poses more of a problem since the direct purchaser may not yet have

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149 § 303, *amending* 28 U.S.C. § 1407 (1970) (codified at 28 U.S.C. § 1407(h) (Supp. 1977)). Previously, the Panel could consolidate actions only for pretrial purposes, and some commentators had recommended that the Panel be allowed to order a single trial. *See, e.g.*, Note, *supra* note 148, at 1036-40. Under section 303, the frustrating requirement that venue must have been originally proper in the transferee district for an action to be tried there, Hoffman v. Blaski, 363 U.S. 335 (1960), has been abolished for *parens patriae* actions. Consolidated discovery and single trials might become common under Title III, for the court has power under section 303 to order consolidation even when the parties do not consent.

150 15 U.S.C. § 15(b) (1970).

151 Carnivale Bag Co. v. Slide-Rite Mfg. Corp., 395 F. Supp. 287, 292 (S.D.N.Y. 1975); *cf.* SEC v. Texas Gulf Sulphur Co., 312 F. Supp. 77, 90-94 (S.D.N.Y. 1970), *aff'd in part and rev'd in part*, 446 F.2d 1301 (2d Cir.), *cert. denied*, 404 U.S. 1005 (1971).

152 *See* McGuire, *supra* note 115, at 199.

153 *See* note 146 *supra*. If the defendant chooses not to interplead for tactical reasons, it might well be that he should not later be heard to complain of multiple liability.

154 *See* McGuire, *supra* note 115, at 201-02.

155 FED. R. CIV. P. 19(a)(2)(ii).

156 *See* § 4C(a)(1)(A), 15 U.S.C. § 15c(a)(1)(A) (Supp. 1977). There is not necessarily any failure by the drafters here, for the problem is not unique to *parens patriae* suits or antitrust litigation. The risk of multiple liability inheres whenever separate actions may be brought by more than one plaintiff.

claimed that he suffered injury, but the requirement is satisfied if one interprets the language as calling for joinder if the absentee "*has some* interest in the controversy."[157] In any event, there is no reason why a *parens patriae* action should have to be dismissed for failure to join direct purchasers as "indispensable parties." All the devices noted above[158] can serve as the "protective provisions in the judgment" and "shaping of relief" contemplated by Rule 19(b).[159] As a result, a *parens patriae* treble damage suit should always be able to go forward "in equity and good conscience," so that the intent of Congress to provide "an adequate remedy"[160] to consumers will not be frustrated.[161]

In summary, the danger of multiple recovery is more imaginary than real. If such a difficulty should arise, the court should be able to fashion its relief accordingly. As one court well said, "[t]he day is long past when courts, particularly federal courts, will deny relief to a deserving plaintiff merely because of procedural difficulties or problems of apportioning damages."[162]

E. *Distribution of Damages*

Section 4E[163] provides that upon the establishment of the defendant's liability and the total monetary relief to be awarded to the state, distribution will be made to injured consumers. To the extent that consumers do not claim the entire amount, the district court is authorized to distribute the remainder as it sees fit or to declare the unclaimed portion a civil penalty to be deposited with the state as general revenues.[164] The first alter-

157 C. WRIGHT, FEDERAL COURTS § 70, at 337 (3d ed. 1976) (emphasis added).

158 *See* text accompanying notes 146-52 *supra.*

159 *See generally* Justice Harlan's able analysis in Provident Tradesmens Bank & Trust Co. v. Patterson, 390 U.S. 102 (1968).

160 FED. R. CIV. P. 19(b).

161 Moreover, it is clearly preferable to allow the *parens patriae* recovery, even if distribution will be suspended until the statute of limitations runs, rather than to dismiss the action altogether and allow the violator to retain its illegal gains while the attorney general waits until the day before the statute runs to file his suit. Procedural difficulties should not force an exaction of damages to be unduly delayed.

162 *Western Liquid Asphalt Cases, supra* note 108, at 201.

163 15 U.S.C. § 15e (Supp. 1977).

164 There has been some concern that such a civil penalty would be unconstitutional. *See* ANTITRUST & TRADE REG. REP. (BNA), Jan. 4, 1977, at D-5 (statement of C. Raymond Marvin, Washington Counsel for the National Association of Attorneys General); SENATE REPORT, *supra* note 13, at 165-66 (additional views of Sen. Burdick). This concern is unwarranted, for courts have long approved civil penalties of this sort.

native is intended to allow the court broad discretion in fashioning a use of the residue for some public purpose benefitting, as closely as possible, the class of damaged consumers.[165] This follows the suggestion of a number of commentators that a "fluid recovery" distribution from a class action recovery be made to a "next-best" class composed to the greatest extent possible of absent class members.[166]

Apparently the court is free to direct distribution of unclaimed funds through the market as well as through the state.[167] In fact, the group of consumers compensated through price reductions in the market may well include more of those actually injured than would state distribution, if the market distribution is achieved before a significant number of people have dropped out of the relevant market. But market distribution has several undesirable side effects, including windfalls for non-class members and class members who have filed individual claims, possible reductions in product quality or accompanying services, and, most disturbing of all, possible unpalatable consequences for competition.[168] Distribution through the state, on the other hand, may benefit those injured less directly, and fail to eliminate the windfall for those who recover on their own, but it involves fewer of the complications noted above. This has led one commentator to conclude that this method is preferable to market distribution in most cases.[169]

"[T]he payment of fixed or variable sums of money are . . . sanctions which have been recognized as enforcible by civil proceedings since . . . 1789." Helvering v. Mitchell, 303 U.S. 391, 400 (1938). And it matters not whether the civil penalty redounds to the benefit of the government or to private litigants. *Compare* United States *ex rel.* Marcus v. Hess, 317 U.S. 537, 549-51 (1943) (upholding constitutionality of an income tax penalty) *with* Herald Co. v. Harper, 410 F.2d 125 (8th Cir. 1969) (holding treble damage penalty under Sherman Act constitutional).

165 HOUSE REPORT, *supra* note 4, at 16; SENATE REPORT, *supra* note 13, at 49.

166 *See, e.g.*, Comment, *Damage Distribution in Class Actions: The Cy Pres Remedy*, 39 U. CHI. L. REV. 448, 452-65 (1972 [hereinafter cited as *Cy Pres*]; Jacoby & Cherkasky, *The Effects of* Eisen IV *and Proposed Amendments of Federal Rule 23*, 12 SAN DIEGO L. REV. 1, 20-24 (1974).

167 The House and Senate reports state that the residual funds should be used for some "public purpose," but then refer with approval to cases applying recoveries for bus and taxi fare overcharges to future reductions of those fares. HOUSE REPORT, *supra* note 4, at 16; SENATE REPORT, *supra* note 13, at 49. *See* Daar v. Yellow Cab Co., 67 Cal. 2d 695, 433 P.2d 732, 63 Cal. Rptr. 724 (1967). Obviously, these were distributions through the market.

168 *Cy Pres, supra* note 166, at 461-63; Note, *Managing the Large Class Action*: Eisen v. Carlisle & Jacquelin, 87 HARV. L. REV. 426, 447 n.119 (1973).

169 *Cy Pres, supra* note 166, at 464.

If a narrower "next-best" class cannot be ascertained, the court might devote the funds to a broader purpose that benefits society as a whole.[170] Although explicitly authorized by section 4E(2),[171] another possibility, deposit of the funds into general revenues of the state as a civil penalty, is the least desirable method of disposing of unclaimed funds since it is furthest removed from the compensatory goal of Title III.[172] In effect, the court would be declaring that the general taxpaying public is the "next-best" recipient.[173] Accordingly, it should be considered only as a last resort when no better disposal of the funds can be tailored by the court.

IV. Conclusion

Title III of the Hart-Scott-Rodino Antitrust Improvements Act of 1976 breaks new ground in allowing state attorneys general to bring treble damage actions on behalf of consumers injured by Sherman Act violations. There are novel issues to be resolved, including the constitutional sufficiency of notice by publication, the feasibility of proving damages in the aggregate, and the propriety of "fluid recovery" distribution of damages. But the congressional expression in the *parens patriae* legislation of the transcendent national interest in enhancing competition through vigorous antitrust enforcement demands that judicial construction of the statute boldly carry out the law's remedial purpose.

As matters now stand, it appears that *parens patriae* treble damage suits will be brought primarily against "hard-core" price-fixing violations.[174] This is so because of the limited authorization of Section 4D[175] and a long-standing tendency of state antitrust enforcers to concentrate on more easily proven *per se* offenses such as price-fixing.[176] The ultimate resolution

170 *See* Hinds, *supra* note 91, at 813.

171 15 U.S.C. § 15e(2) (Supp. 1977).

172 *See* Hinds, *supra* note 91, at 814; *Senate Hearings, supra* note 10, at 124; *Cy Pres, supra* note 166, at 455.

173 *See Cy Pres, supra* note 166, at 454 n.24.

174 *See* 34 Cong. Q. 2579 (Sept. 18, 1976); 122 Cong. Rec. H10,299-300 (daily ed. Sept. 16, 1976) (remarks of Rep. Flowers).

175 15 U.S.C. § 15d (Supp. 1977). *See* text accompanying notes 56-59 *supra.*

176 *See* National Association of Attorneys General, State Antitrust Laws and Their Enforcement 47 (1974). Of fourteen states responding to a survey ques-

of the "passing on" issue will probably determine the efficiency of the *parens patriae* concept against price-fixing violations at various points in the chain of distribution.[177] If that resolution favors consumer suits, and if the federal courts overcome an initial hesitancy about the use of advanced methods of damage calculation, this *parens patriae* legislation can at last realize the promise of an effective vehicle for vindicating and compensating the injured consumer.[178]

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tionnaire asking what type of antitrust violation was considered to be most common, all but one mentioned price-fixing. Furthermore, according to the report, "[p]rice-fixing is considered by most of these states to be the most worthwhile violation against which to take action." *Id. See also* ANTITRUST & TRADE REG. REP. (BNA), Dec. 7, 1976, at A-21 (statement of John DeSiderio, N.Y. Assistant Attorney General, to the effect that most cases will be for price-fixing).

177 In the case which provided the catalyst for the *parens patriae* legislation, California v. Frito-Lay, Inc., 474 F.2d 774 (9th Cir. 1973), *cert. denied*, 412 U.S. 908 (1973), the state alleged a price-fixing conspiracy among snack-food manufacturers, who did not deal directly with the ultimate consumers. District Judge Manuel L. Real, who originally presided in *Frito-Lay*, has noted in a discussion of the chain of distribution problems in that case that there were three groups allegedly damaged: retailers, restaurant operators, and individual consumers. But he indicated that in his opinion the determination of the extent to which the overcharge affected each group would not be particularly difficult. *Symposium, supra* note 23, at 571-72.

Although exacting precision of proof is impossible, one might note that most important management decisions in the business world are made through the intelligent application of statistical techniques. There is no apparent reason to believe that these same techniques will be less trustworthy in a court of law. *In re* Antibiotics Antitrust Actions, 333 F. Supp. 278, 289 (S.D.N.Y.), *mandamus denied on other grounds*, 449 F.2d 119 (2d Cir. 1971); *Senate Hearings, supra* note 10, at 150 (remarks of Mark Green and Ralph Nader).

178 As this Comment went to press, the first *parens patriae* suit was instituted under the authority of Title III. The State of Arizona filed an amended complaint charging twelve major oil companies with conspiring to create an "artificial scarcity" of crude oil and refined products in order to raise prices. The state seeks, *inter alia*, treble damages for approximately 300 Arizona governmental entities and over 1.6 million owners of motor vehicles registered in the state and injured by paying higher gasoline prices. Arizona v. Standard Oil Co., CV 76-3247 (C.D. Cal. Feb. 7, 1977), *reported in* ANTITRUST & TRADE REG. REP. (BNA), March 1, 1977, at D-1.

STATUTORY COMMENT

THE PROPOSED OUTER CONTINENTAL SHELF LANDS ACT AMENDMENTS OF 1976: AN INADEQUATE GUIDE TO OUTER CONTINENTAL SHELF DEVELOPMENT

JAMES S. COLE, JR.*

In response to the crises of energy supply and oil spill pollution, the 95th Congress is considering major revisions of the foundation of the outer continental shelf oil and gas regulatory structure, the Outer Continental Shelf Lands Act of 1953. Mr. Cole analyzes three parts of the proposed revisions: the balancing of interests which would determine where on the shelf oil and gas development will occur, the provision of alternative bidding methods to allocate development rights among oil and gas companies, and the arrangements for compensation and imposition of liability when damage from oil spills occurs. He concludes that while the latter arrangements would effectively achieve the goals of compensation and deterrence, the interest balancing mechanism and the new bidding procedures require substantial modification if Congress is satisfactorily to govern outer continental shelf development.

Introduction

The ocean and its bed are the earth's final frontier. The most accessible part of that frontier is the relatively shallow extension of the continental land masses, the continental shelf.[1] The area of the continental shelf under United States control nearly equals in size that of the 26 states east of the Mississippi River.[2]

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1 The seabed around the continents is roughly divided into four geophysical zones. The continental shelf extends outwards from shore gradually to an average depth of 200 meters (660 feet). At its edge, the seabed takes a steep decline, known as the continental slope. The gentler gradient which marks the merger of the slope with the deep seabed is the continental rise. The shelf, slope, and rise are collectively known as the continental margin. SPECIAL SUBCOMM. ON THE OUTER CONTINENTAL SHELF OF THE SENATE COMM. ON INTERIOR AND INSULAR AFFAIRS, 91ST CONG., 2D SESS., REPORT ON THE OUTER CONTINENTAL SHELF 222 (Comm. Print 1970), *reprinted in* L. JUDA, OCEAN SPACE RIGHTS: DEVELOPING U.S. POLICY, app. G, 193-194 (1975).

2 Size of the 26 eastern states: 878,309 sq. mi. 1977 WORLD ALMANAC AND BOOK OF

Knowledge of the vast shelf, however, is sparse; as an Interior Department report recognized, "[o]n the time scale of exploration of the United States lands, that of the [continental] shelves is in the early 17th century stage. . . ."[3]

The natural resource potential of this frontier inspires most of the current interest in outer continental shelf (OCS) development. Estimates of the amounts of resources contained on or under the shelf defy accuracy, but rough projections based on the pattern of discoveries on land indicate enormous possibilities. There may be twenty-six billion barrels of oil and one hundred ten trillion cubic feet of natural gas recoverable.[4] (Total potential onshore production, by contrast, is estimated to be 305 billion barrels of oil and 1,424 trillion cubic feet of natural gas.)[5] Substantial quantities of other minerals also exist on the shelf.[6]

Extraction of mineral resources, however, is only one of many beneficial uses of the shelf. Today, the OCS and its waters support commercial fishing, waste disposal, undersea cables, and recreation. Future uses could include aquaculture, thermal or ocean current power generation, transportation, and expanded scientific research.[7]

FACTS 456. Size of the continental shelf (to a depth of 200 meters): 805,000 sq. mi. U. S. DEPARTMENT OF THE INTERIOR, POTENTIAL MINERAL RESOURCES OF THE UNITED STATES OUTER CONTINENTAL SHELF (1968), *reprinted in Outer Continental Shelf Policy Issues: Hearings Before the Senate Comm. on Interior and Insular Affairs on Oversight on Outer Continental Shelf Lands Act*, 92d Cong., 2d Sess. 166, 174 [hereinafter cited as *1972 Interior Hearings*].

3 U.S. DEPARTMENT OF THE INTERIOR, POTENTIAL MINERAL RESOURCES OF THE UNITED STATES OUTER CONTINENTAL SHELF (1968), *reprinted in 1972 Interior Hearings, supra* note 2, at 270.

4 CONGRESSIONAL RESEARCH SERVICE, EFFECTS OF OIL AND GAS DEVELOPMENT ON THE COASTAL ZONE, 94TH CONG., 2D SESS., REPORT TO THE HOUSE AD HOC SELECT COMMITTEE ON THE OUTER CONTINENTAL SHELF 64-66 (Comm. Print 1976). Earlier estimates showed even greater resource potential: 80-150 billion barrels of oil and 490-900 trillion cubic feet of gas. STAFF OF SENATE COMM. ON COMMERCE & THE NATIONAL OCEAN POLICY STUDY, 93D CONG., 2D SESS., OUTER CONTINENTAL SHELF OIL AND GAS DEVELOPMENT AND THE COASTAL ZONE 1 (Comm. Print 1974).

5 D. KASH & I. WHITE, ENERGY UNDER THE OCEANS 316-17 (1973) [hereinafter cited as KASH STUDY]. Onshore production estimates are based on much more extensive evidence than are estimates of offshore reserves.

6 U.S. DEPARTMENT OF THE INTERIOR, POTENTIAL MINERAL RESOURCES OF THE UNITED STATES OUTER CONTINENTAL SHELF (1968), *reprinted in 1972 Interior Hearings, supra* note 2, at 269-70.

7 Montgomery, *The Multiple Use Concept as the Basis of a New Outer Continental Shelf Legislative Policy*, 62 KY. L.J. 327, 350 (1974); Smith & Marshall, *Mariculture: A New Ocean Use*, 4 GA. J. INT'L & COMP. L. 307 (1974); Clarkson, *International Law, U.S. Seabeds Policy, and Ocean Resource Development*, 17 J.L. & ECON. 117 (1974).

Even in this early stage of OCS development, conflicts are arising in its use. The central conflict today pits the urgent need for domestic energy supplies against the long-term requirements of coastal industries and against environmental protection.

Without a legislative scheme to balance the interests of potential users against each other and against the interests of environmental protection, neither preservation of environmental integrity nor efficient development of appropriate OCS areas can be assured. The Outer Continental Shelf Lands Act of 1953[8] already governs OCS development; however, strong sentiment has developed for statutory revision to meet changed conditions in the 1970's.[9]

8 The Outer Continental Shelf Lands Act of 1953, 43 U.S.C. §§ 1331-43 (1970). The United States first claimed jurisdiction over the seabed beyond territorial limits in the Truman Proclamation of 1945. Presidential Proclamation No. 2667, 3 C.F.R. 67 (1943-48 compilation), *reprinted in* 59 Stat. 885 (1945). The 1958 United Nations Law of the Sea Conference legitimized this and other nations' OCS claims in the Convention on the Continental Shelf, [1964] 1 U.S.T. 471, T.I.A.S. No. 5578, 499 U.N.T.S. 311. *See generally* L. JUDA, *supra* note 1, at 11-27; E. Katin, The Legal Status of the Outer Continental Shelf as Determined by the Conventions Adopted at the 1958 United Nations Conference on the Law of the Sea (1962) (unpublished Ph.D. thesis, Graduate Faculty of the U. of Minn.).

The Submerged Lands Act of 1953, 43 U.S.C. §§ 1301-15 (1970), quitclaimed to the states federal proprietary claims to the shelf within the three-nautical-mile territorial sea, except for those states which historically claimed larger areas. In litigation commenced in response to the Act by the federal government, the Supreme Court held that only Texas and Florida had legitimate claims to more than three natuical miles; their claims extend into the Gulf of Mexico for three marine leagues. Florida claims only three nautical miles off its Atlantic Coast. (One nautical mile equals 1.15 statute miles; one marine league equals three natuical miles.) United States v. Louisiana, 363 U.S. 1, *final decree entered,* 364 U.S. 502 (1960), *supp. decree entered,* 382 U.S. 288 (1965); United States v. Florida, 363 U.S. 121 (1960).

Federal control of shelf lands outside state limits is exclusive. United States v. Maine, 420 U.S. 515 (1975); United States v. Florida, 420 U.S. 531 (1975). The Coastal Zone Management Act of 1972, 16 U.S.C. §§ 1451-64 (Supp. II 1972) [hereinafter cited as CZMA], and the Coastal Zone Management Act Amendments of 1976, Pub. L. No. 94-370, 90 Stat. 1013, have given the states some influence and control over federal OCS development. *See generally* Breeden, *Federalism and the Development of Outer Continental Shelf Mineral Resources,* 28 STAN. L. REV. 1107 (1976); Comment, *The Coastal Zone Management Act Amendments of 1976,* 1 HARV. ENVT'L L. REV. 259 (1977).

9 Two factors explain the congressional interest in OCS issues commencing in the late 1960's: increasing importation of petroleum into the United States, *1972 Interior Hearings, supra* note 2, at 1-5, and the United Nations' initiatives regarding the law of the sea, L. JUDA, *supra* note 1, at 82-106; SPECIAL SUBCOMM. ON THE OUTER CONTINENTAL SHELF OF THE SENATE COMM. ON INTERIOR AND INSULAR AFFAIRS, 91ST CONG., 2D SESS., REPORT ON THE OUTER CONTINENTAL SHELF 4-5 (Comm. Print 1970). The OPEC oil embargo of the fall of 1973, and the hasty response of the Executive Branch, ENERGY CRISIS MESSAGE TO THE CONGRESS OUTLINING LEGISLATIVE PROPOSALS AND EXECUTIVE ACTIONS TO DEAL WITH THE CRISIS, H.R. DOC. No. 201, 93d Cong., 1st Sess.

The 94th Congress nearly approved a set of amendments to the OCSLA which would have regulated the extraction of OCS oil and gas.[10] This Comment evaluates the final conference version of the proposed Amendments since they have been resubmitted in that form to the 95th Congress.[11]

The first section of the analysis challenges the method proposed in the Amendments for deciding where on the OCS oil and gas development will take place. This section focuses on the effectiveness of the congressional scheme as a practical balancer of affected interests. It does not address the theoretical question of the validity of interest balancing itself as a mechanism for determining the most beneficial use of the OCS.[12] A balancing mechanism which reflects a multiple-use philosophy of OCS development is offered as a remedy for the proposed Amendments' over-emphasis on gas and oil extraction.

The second part of the analysis examines the proposed Amendments' provisions for determining, given a decision to devote a particular tract to oil and gas extraction, which companies will do the developing. This section identifies the main

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(1974), spurred action on OCS matters. Out of the flurry of bills related to the continental shelf introduced in the 93d Congress, however, only one, S. 3221, passed either House. H.R. REP. No. 1084, 94th Cong., 2d Sess. 1 (1976) [hereinafter cited as AD HOC H. R. REP. No. 1084].

10 The Senate approved S. 521, the successor to S. 3221 of the 93d Congress, in July 1975. AD HOC H.R. REP. No. 1084, *supra* note 9, at 70. The House of Representatives, in an unusual display of inter-committee harmony, appointed an Ad Hoc Select Committee on the Outer Continental Shelf composed of members from several committees which could have claimed jurisdiction over OCS questions. *Id.* 71. After holding hearings nationwide in 1975, the Committee reported out a bill substantially different from the Senate's bill on March 4, 1976. *Id.* 1. The conference committee approved the House bill with modifications on September 20, 1976. Outer Continental Shelf Lands Act Amendments of 1976, *reprinted in* H.R. REP. No. 1632, 94th Cong., 2d Sess. 1 (1976) [hereinafter cited as OCSLA Amendments]. A closely divided House, however, voted to recommit the bill to conference, killing it for the 94th Congress. 122 CONG. REC. H11,340-41 (daily ed. Sept. 28, 1976).

Opponents of the bill articulated two grounds for discontent. First, federal exploratory activities which the bill directed would shift the risk of "wildcatting" from the oil companies to the taxpayers. Second, the bill would worsen the already confused state of agency jurisdiction over job safety regulations and enforcement. *Id.* H11,324-40.

11 Rep. John M. Murphy, chairman of the Ad Hoc Committee, introduced the Amendments as H.R. 1614 on January 11, 1977, and the House referred the Amendments to the Ad Hoc Committee. H.R. 1614, 95th Cong., 1st Sess., 123 CONG. REC. H324 (daily ed. Jan. 11, 1977). Sen. Henry M. Jackson introduced the Amendments as S. 9 on January 10, and the Senate referred the Amendments to the Interior Committee. S. 9, 95th Cong., 1st Sess., 123 CONG. REC. S163 (daily ed. Jan. 10, 1977). *See also* note 119a *infra.*

12 *See* text accompanying notes 14, 15 *infra.*

criticisms of the present scheme, suggests a redrafting of the goals Congress should set for the proposed methods of allocating tract rights, and measures the proposed allocation methods against the present criticisms and the specified goals. It also examines a proposal designed to improve the distribution of information needed for competitive bidding.

Finally, the third part evaluates the proposals which prescribe the legal mechanisms for restoring the OCS and surrounding environment in the event of oil production accidents. It assesses the likelihood of the proposals' successfully providing compensation to damaged parties and deterrence against the occurrence of oil spills.[13]

I. Locating Oil and Gas Development on the OCS

Any method of deciding where oil and gas exploitation will take place in the OCS must balance the benefits of exploitation against the harm to and exclusion of the area's other present and potential commercial uses, and against the harm of environmental dislocations. The 1976 Amendments would conduct this balancing at the level of affected interests: they would attempt to establish an interest representation scheme, in which all interests affected by oil and gas development would have an opportunity to influence the location decision.

The theory behind interest representation is that when all interests participate, meaningful and objective balancing can occur.[14] Although criticisms of the interest representation model have been advanced,[15] they lie beyond the scope of this

13 Several branches of OCS-related legal issues — including international cooperation in the opening of the frontier, relations between the federal and state governments, and state OCS regulations — fall outside the scope of this Comment. For discussion of these issues, *see, e.g.*, Note, *Exploitation of Seabed Mineral Resources — Chaos or Legal Order?* 58 Cornell L. Rev. 575 (1973); Breeden, *supra* note 8; Note, *The Coastal Zone Management Act and State-Local Relations Under the Louisiana Constitution of 1974*, 22 Loy. L. Rev. 273 (1976); Comment, *The Coastal Zone Management Act Amendments of 1976*, 1 Harv. Envt'l L. Rev. 259 (1977).

14 *See* Stewart, *The Reformation of American Administrative Law*, 88 Harv. L. Rev. 1667 (1975). The interest representation model of administrative law, which, Professor Stewart asserts, describes to a large extent the current American regulatory system, grants procedural rights to a large number of affected parties but does not attempt to establish principles which prescribe or evaluate a particular substantive outcome. *Id.* 1760-70.

15 Stewart's critique of the interest representation model focuses on its perceived ineffectiveness in breaking the dependency of the regulatory system on the industries it

section. The purpose of this analysis is to demonstrate that the existing statutory scheme and the 1976 Amendments do not even provide for the necessary objective balancing.

We know little about the OCS — a state of affairs which colors all decision-making regarding its use. Neither the physical condition of the OCS nor the life processes the shelf and its water support have been adequately studied.[16] Given this background, use decisions require full, careful balancing of all interests in order to reach acceptable results.

A. *The Present Scheme of OCS Oil and Gas Location*

The decision-making process governing OCS oil and gas exploitation under the existing statutory scheme is distinguished by its fragmentation. Responsibility for use decisions which affect the location of exploitation activity lies with several government units under two statutes; no unified, comprehensive system for study or planning exists.

The Outer Continental Shelf Lands Act of 1953 (OCSLA), the foundation of the federal OCS regulatory system, delegates control over use decisions to three separate decision-makers. First, it authorizes the Interior Department to regulate directly the location of mineral extraction through the leasing of OCS tracts.[17] Second, it extends the jurisdiction of the Army Corps of Engineers over structures and objects, such as oil drilling platforms, in American navigable waters[18] to include OCS waters.[19] Originally intended to protect navigation, this control over use has been broadened in regulations[20] and in litigation[21]

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regulates and thus suggests that the proceduralism of the existing system merely reinforces existing distributions of economic power. *Id.* 1770-81.

16 *See, e.g., 1972 Interior Hearings, supra* note 2, at 5 (statement of Hollis M. Dole, Assistant Secretary for Mineral Resources, Department of the Interior); KASH STUDY, *supra* note 5, at 139-48.

17 43 U.S.C. §§ 1334, 1337 (1970). The OCSLA concentrates on oil and gas leasing; sulphur recovery is the only other private use given specific statutory mention. *Id.* § 1337(g), (h). Helium recovery and radioactive mineral mining are reserved specifically for the federal government. *Id.* § 1341(e), (f). Leases for other minerals are authorized in a residual clause. *Id.* § 1337(e).

18 Rivers and Harbors Act of 1899, 33 U.S.C. §§ 401-413 (1970).

19 43 U.S.C. § 1333(f) (1970). This authority extends clearly to objects connected to the shelf, but is less clear for vessels or objects not so attached. *Cf.* AD HOC H.R. REP. No. 1084, *supra* note 9, at 158. (letter from Legal Counsel's Office, Department of State, to Hon. John Murphy (Jan. 20, 1976)).

20 One recent regulation provides:

to enable the Corps to refuse permits for OCS structures even when navigability is not threatened. Finally, the OCSLA leaves military uses of the OCS to the Defense Department. The Department can designate shelf areas as necessary for national defense, thereby excluding all oil and gas development and suspending any production in progress.[22] A second statute, the Marine Protection, Research, and Sanctuaries Act of 1972,[23] empowers the Department of Commerce, through the National Oceanographic and Atmospheric Administration, to designate areas of the seabed as undersea sanctuaries and to prohibit oil and gas development on them.[24]

In this fragmented system of OCS use decision-making, the comprehensive, careful balancing required for locating oil and gas exploitation cannot occur. The Interior Department lacks

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> The decision whether to issue a permit will be based on an evaluation of the probable impact of the proposed structure or work and its intended use on the public interest. . . . All factors that may be relevant to the proposal must be considered; among those factors are conservation, economics, aesthetics, general environmental concerns, historic values, fish and wildlife values, flood-damage prevention, land use classifications, navigation, recreation, water supply, water quality, and, in general, the needs and welfare of the people.

33 C.F.R. § 209.120(f)(1) (1976).

21 United States v. Ray, 423 F.2d 16 (5th Cir. 1970). Defendants attempted to start construction on a project based on a coral reef 4½ miles from the nearest land (outside U.S. territorial waters but apparently within Florida's). Envisaged was a "sovereign nation at a cost of approximately $250 million housing a radio and television station, post office, building offices, stamp department and foreign offices, government palace, congress, international bank and mint. A gambling casino was also in the offing." Comment, 6 SAN DIEGO L. REV. 487, 488 n.8 (1969).

At low tide, the coral reef broke the surface of the water, and at all times the immediate area was in fact non-navigable. The Court of Appeals, however, found that the area was legally navigable, then held that this finding was unnecessary since section 1333(f) of the OCSLA "extends the authority of the [Corps] to 'fixed structures located on the outer Continental Shelf' without regard to the navigability of the particular area involved." 423 F.2d at 19.

Similar attempts to construct artificial islands and establish "sovereign" entities on the Cortes Bank, 110 miles off San Diego, were quickly scotched by the Corps of Engineers. Comment, *supra*, at 498-99; R. KRUEGER, STUDY OF THE OUTERCONTINENTAL SHELF LANDS OF THE UNITED STATES 48 n.72 (1968) [hereinafter cited as KRUEGER STUDY].

Unauthorized uses of the OCS do not give the United States a cause of action for trespass, because the United States claims no fee in OCS lands. However, sufficient interests of the United States are involved to support injunctions against such uses. United States v. Ray, *supra*.

22 OCSLA, 43 U.S.C. § 1341(d) (1970); 32 C.F.R. § 252.1-.4 (1975). *See also* KRUEGER STUDY, *supra* note 21, at 77, 252-62.

23 16 U.S.C. §§ 1431-1434 (Supp. V 1975).

24 *Id.* § 1432(a), (f). Section 12(a) of the OCSLA, 43 U.S.C. § 1341(A) (1970), authorizes the President to do substantially the same thing. In 1960, President Eisenhower established the Key Largo Coral Reef Preserve under the authority of § 12(a). Presidential Proclamation No. 3339, 3 C.F.R. § 71 (1959-63 compilation).

legislative authorization affirmatively to develop OCS uses other than oil and gas extraction, and other decisions affecting oil and gas location are made independently by a variety of government bodies. Indeed, despite the small scale of OCS development to date, the lack of a single process for deciding where to locate oil and gas extraction has already resulted in conflicts between extraction and other uses[25] and between decision-makers.[26]

B. *The Proposed Amendments' Scheme of Oil and Gas Location*

The 1976 Amendments would remedy the fragmentation of decision-making by providing a single procedural framework for regulating oil and gas exploitation. They would still fail, however, to assure that a thorough and impartial balancing of interests would determine the location of oil and gas activity.

The proposed Amendments would create a unified administrative procedure, within the Department of the Interior, through which all interests affected by oil and gas activity could participate. The Department of the Interior would submit proposed leasing programs for evaluation to the governor of any affected state, to the Attorney General, to the Regional Outer Continental Shelf Advisory Boards,[27] to the Congress,[28]

25 The largest conflict thus far has been between commercial fishing and offshore oil:

> We have seen in the Gulf of Mexico, . . . and . . . in the North Sea, . . . that when the oil industry does move in and start drilling operations, pipelaying, that type of thing, that it can result in considerable dislocation to the fishing industry — just the physical presence, taking up space in the ocean . . . if they happen to drill in a particularly productive fishing area and push the boats out of the area, then that reduces the productivity of the fishing boats and increases their costs; . . . .

Hearings on H. 6218 Before the House Ad Hoc Select Comm. on the Outer Continental Shelf, 94th Cong., 1st Sess., pt. 3, at 1936 (1975) [hereinafter cited as *Ad Hoc Hearings*] (statement of Richard Allen, Atlantic Offshore Fish and Lobster Association).

26 Open conflict between the Interior Department and the Army has surfaced at least once. After Interior announced the 1968 lease sale for tracts in the Santa Barbara Channel, the Army realized that the tracts lay within the flight path of the Vandenberg Air Force Base rocket launching site with the possibility of accidents and damage to oil operations. Interior refused Army's request to insert "hold harmless" clauses favoring the Government into the lease agreements. The Corps of Engineers thereupon announced that it would embody such clauses in the necessary platform permits. KRUEGER STUDY, *supra* note 21, at 260-62.

27 The Regional Advisory Boards would be created by the Amendments to make recommendations to the Secretary of the Interior on all phases of oil and gas development and to help implement his decisions. Governors of "affected states" would appoint the Board members. OCSLA Amendments, *supra* note 10, § 208 (proposed § 19)).

28 *Id.* § 208 (proposed § 18(c) (1), (2), (3)).

and to the President.[29] General public participation would be specifically provided for,[30] as would continuing review of approved leases.[31]

Within this procedural framework, however, it is unlikely that meaningful balancing would occur. First, the proposed Amendments reflect a strong congressional desire to promote oil and gas development. The House Ad Hoc Committee describes the "basic purpose" of the Amendments as the promotion of

> swift, orderly and efficient exploitation of our almost untapped domestic oil and gas resources in the Outer Continental Shelf.
>
> Development of our OCS resources will supply needed time — as much as a generation — within which to develop alternative sources of energy before the inevitable exhaustion of the world's supply of fossil fuels.[32]

The first eight congressional findings which introduce the Amendments reinforce the urgency of this purpose.[33]

Second, the Amendments would require that the Secretary of the Interior prepare five-year leasing programs according to principles[34] which, when coupled with the strong promotion of

29 *Id.* § 208 (proposed § 18(d) (2)).

30 *Id.* § 208 (proposed § 18(d) (1), (f) (2)).

31 *Id.* § 208 (proposed § 18(e), (f)).

32 AD HOC H.R. REP. No. 1084, *supra* note 9, at 48.

33 Congress found that:

(1) the demand for energy in the United States is increasing and will continue to increase for the foreseeable future;

(2) domestic production of oil and gas has declined in recent years;

(3) the United States has become increasingly dependent upon imports of oil from foreign nations to meet domestic energy demand;

(4) increasing reliance on imported oil is not inevitable, but is rather subject to significant reduction by increasing the development of domestic sources of energy supply;

(5) consumption of natural gas has greatly exceeded additions to domestic reserves in recent years;

(6) technology is or can be made available which will allow significantly increased domestic production of oil and gas without undue harm or damage to the environment;

(7) the Outer Continental Shelf contains significant quantities of petroleum and natural gas and is a vital national resource reserve . . .

(8) there presently exists a variety of technological, economic, environmental, administrative, and legal problems which tend to retard the development of the oil and natural gas reserves of the Outer Continental Shelf . . .

OCSLA Amendments, *supra* note 10, § 101(1)-(8).

34 The proposed principles state that:

(1) Management of the outer Continental Shelf shall be conducted in a

oil and gas development, would almost guarantee that any OCS area with possible oil and gas deposits would be put to no other use. The problem is not that the use decisions would be arbitrary;[35] rather, it arises from the lack of any guidance regarding the weight to be given to interests in uses other than oil and gas, combined with an implicit favoring of oil and gas use.

For example, the guiding principle stated in subparagraph (2) (I) singles out for thorough evaluation the oil and gas industry's potential resources for development of particular OCS regions.[36] Subparagraph (2) (D) indicates only that other uses are to be considered, but does not require the evaluation of

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manner which considers all economic, social, and environmental values of renewable and nonrenewable resources . . . and the potential impact of oil and gas exploration on other resource values of the outer continental shelf and the marine, coastal, and human environments.

(2) The timing and location of exploration, development, and production of oil and gas among the . . . regions of the outer Continental Shelf shall be based on a consideration of—

. . .

(C) the location of such regions with respect to, and the relative needs of, regional and national energy markets;

(D) the location of such regions with respect to other uses of the sea and seabed, including fisheries, intracoastal navigation, existing or proposed sealanes, potential sites of deepwater ports, and other anticipated uses of the resources and space of the outer Continental Shelf;

(E) the interest of potential oil and gas producers in the development of oil and gas resources as indicated by exploration or nomination;

. . .

(I) whether the oil and gas producing industry has sufficient resources . . . to bring about the exploration, development, and production of oil and gas in such regions in an expeditious manner.

(3) The Secretary shall select the timing and location of leasing, to the maximum extent practicable, so as to obtain a proper balance between the potential for environmental damage, the potential for the discovery of oil and gas, and the potential for adverse impact on the Coastal Zone.

(4) Leasing activities shall be conducted to assure receipt of fair market value

. . .

Id. § 208 (proposed § 18(a) (1)-(4)).

35 The Secretary would have to operate within the statutory guidelines or face challenges on grounds of an inadequate basis for his decision. Such challenges can be substantial, as the Department of the Interior's experience with lease environmental impact statements under the National Environmental Policy Act of 1969, 42 U.S.C. §§ 4321, 4331-35, 4341-47 (1970), has shown. Strong opposition to offshore lease sales has often resulted in litigation attacking even massive environmental impact statements. *See, e.g.*, National Resources Defense Council v. Morton, 458 F.2d 827 (D.C. Cir. 1972); California *ex rel.* Younger v. Morton, 404 F. Supp. 26 (C.D. Cal. 1975). Although few plaintiffs have been successful, such litigation has seriously delayed Interior's leasing schedule. It held only four of six lease sales scheduled for 1975, and did no better in 1976. AD HOC H.R. REP. No. 1084, *supra* note 9, at 67-68. *See also* Bureau of Land Management, Notice of Offshore Lease Sales, 40 Fed. Reg. 25833-34 (1975).

36 *See* note 34 *supra*.

the interests and capacities of the industries involved in such uses.[37] Guided by subparagraph (2) (C), the Secretary of the Interior would examine only energy markets; markets for other continental shelf products are ignored.[38] Finally, the significant and immediate revenues associated with a decision to develop a region for oil and gas distort the balancing process.[39] That income, and the pressure on Interior to earn it, are likely to outweigh even greater and identifiable future benefits from other uses.[40] This tilting in favor of development of oil and gas negates the effectiveness of even the apparently neutral balancing mandate in paragraph (3).[41] Thus, the combination of the proposed Amendments' strong promotion of oil and gas extraction and their skewed balancing principles suggests that Congress's interest representation procedure would not account fully for all affected interests.

At this point, the lack of information for OCS use decisionmaking becomes highly relevant. Given the present state of knowledge, Congress should not tilt the balance toward oil and gas use, even as a matter of national energy policy, because what the balancing distortion sacrifices and what it gains cannot now be known. The heavy emphasis on oil and gas development would increase information, through unpleasant experience, about the unfortunate effects of oil and gas production accidents on the OCS, but would reveal nothing about the benefits of other uses. In order to obtain the information required for rational development of the OCS, the effects of a variety of uses must be explored. This is unlikely to occur under the Amendments' shortsighted emphasis on oil and gas.[42]

37 *See id.*

38 *See id.*

39 The House Ad Hoc Committee reported that the Department of the Interior had collected from lease sales, since January, 1969, $13.3 billion in bonuses alone. AD HOC H.R. REP. No. 1084, *supra* note 9, at 69. Since that report, a sale in Baltimore Canyon brought a bonus bid of $1.1 billion (about twice what the Interior had anticipated). *U.S. Accepting 93 of Offshore Bids*, N.Y. Times, August 26, 1976, § 1, at 49, col. 6. A federal district court later voided the sale, holding that the Secretary of the Interior gave inadequate consideration to environmental concerns. County of Suffolk v. Department of the Interior, Civ. No. 75 C-208 (E.D.N.Y., Feb. 17, 1977). *See Judge Voids the Sale of U.S. Leases for Oil off Northeast Coast*, N.Y. Times, Feb. 18, 1977, at 1, col. 4.

40 The pressures for revenue have been generated by the Office of Management and Budget. KASH STUDY, *supra* note 5, at 105.

41 *See* note 34 *supra.*

42 Montgomery describes in political terms the dangers of developing the OCS

C. *Multiple Use as a Solution*

Given this background of inadequate information about the OCS, the implementation of a multiple use philosophy of OCS development would be appropriate. It would avoid the shortsightedness of the proposed Amendments and would better assure the adequate representation and balancing of affected interests. Consistent with the terms of the procedural structure the Amendments would establish, the multiple use philosophy would replace Congress's stated principles with an approach which "does not necessarily imply maximization of the benefits from each possible use, but rather the integration of many activities whose sum total of goods and services will exceed the benefits achievable by managing the entire area for a single use."[43]

The multiple use philosophy could provide the framework for full, careful balancing and could lead to experience with many sorts of development and to creation of varied mixes of present returns and future possibilities. The balancing could be broken down into several steps. Since the range of benefits from uses includes more than those susceptible of quantification, the first step identifies which uses return quantifiable benefits and which do not.[44] Then, in balancing only uses with quantifiable benefits, economic criteria can determine the ap-

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according to a dominant use theory such as the Amendments would provide:

> [to] establish by legislation that one use is dominant or that one resource shall have priority carries with it the inherent risk that as national needs change, resource allocation decisions may be controlled by a legislative priority system which no longer reflects current societal demands.

Montgomery, *supra* note 7, at 340. For example, if the proposed Amendments' oil and gas use domination were enacted, the exploitation of a different OCS use which subsequent developments rendered desirable or imperative would likely be inhibited by the established dominance of oil and gas interests.

Montgomery finds historical support for this thesis in the development of federal lands use in the West. Exploitation of the first use of those lands, mineral extraction, was provided for by legislation in the 1890's; the terms of that legislation have governed the development of all subsequent uses, including a 1964 scheme of wilderness preserves. *Id.* 341-43.

43 Montgomery, *supra* note 7, at 330.

44 This separation is necessary as economic analysis can calculate the weight of a use only when its benefits do not "involve intangibles which are difficult to reduce to a common quantitative basis." *Id.* 354. *But cf.* H. RAIFFA, DECISION ANALYSIS (1970). Raiffa constructs a system of quantifying choices between goods with no "objective" value. The system rests on the assumption that the "worth" of such goods can be equated by the decision-maker with the "worth" of substitutes which the decision-maker can rank in order of preference.

propriate mix of uses. In cases involving non-quantifiable benefits, the balancing disadvantage afflicting them could be offset by attaching a presumption of greater worth to non-economic uses.[45]

In the location of oil and gas exploitation activity, the presumption could be overcome upon a showing of the existence of several relevant conditions. These would include the lack of harm from oil and gas development to any unique natural characteristics of the particular OCS area, the unavailability of other areas for oil and gas activity, a tolerable level of disruption of non-economic benefits by oil and gas extraction, and good prospects for restoration of non-economic value after production.[46]

Adoption of the multiple use philosophy to guide development would not be novel. Congress recently enacted legislation embodying a multiple use philosophy for the management of non-OCS federal lands.[47] The legislation implements this philosophy by directing the Department of the Interior, in developing land use plans, to employ a "systematic interdisciplinary approach" in considering the results of "physical, biological, economic, and other sciences," to give priority to protection of critical environmental concerns, to consider both present and potential uses, and specifically to "weigh long term benefits to the public against short term benefits."[48]

The statutory mandate clearly reflects the broad and long-range planning which characterizes the multiple use philosophy. This Comment urges that this broad philosophy govern

45 This presumption is suggested by the Interior Department statement submitted to the 1972 Interior Hearings:

> We have not developed cost-benefit criteria to be applied to marine preserves. The recreational, esthetic, ecological and other scientific benefits that could be derived from carefully selected marine areas may not be translated readily into cost-benefit terms. Instead, the rare or unique qualities of such areas must be evaluated in terms of the total supply of such areas which are available for study or enjoyment. Areas with unique or rare qualities should be preserved unless similar areas are already under adequate protection.

1972 Interior Hearings, supra note 2, at 163. The Federal Land Policy and Management Act of 1976, Pub. L. No. 94-579, 90 Stat. 2743, explicitly provides in § 202(c)(3) for such a presumption for environmental concerns in the consideration of land use plans.

46 The conditions are suggested in *1972 Interior Hearings, supra* note 2, at 163.

47 The Federal Land Policy and Management Act of 1976, Pub. L. No. 94-579, 90 Stat. 2743. The Act specifically excludes OCS lands from the scope of its coverage. *Id.* § 101(e)(1).

48 *Id.* § 202(c)(1)-(7).

the interest balancing which would occur in the Amendments' interest representation scheme. Employed within that procedural structure, a genuine multiple use philosophy would alleviate the oil and gas domination of the balancing scheme proposed in the Amendments.

II. Allocating Oil and Gas Development Rights Among Producers

A. *Present Leasing Procedures*

Once the Department of the Interior designates an area of the OCS for oil and gas extraction, it must decide who will do the extracting. Under the existing scheme, that decision begins with a Bureau of Land Management (BLM) call for nominations of specific tracts to be considered for possible leasing, within the selected area of shelf land.[49] After the oil and gas companies submit formal nominations, the BLM and the U.S. Geological Survey (USGS)[50] decide which of the nominated tracts will be offered for bidding.[51] Notice of the proposed lease sale, after the sale receives the Secretary of the Interior's approval, is published in the Federal Register.[52]

The OCSLA established a competitive bidding system to allocate leases among oil and gas companies.[53] The system is arranged around two means of government collection of revenues: cash bonuses[54] for the lease, and royalties from oil and gas production at the wellhead. The statute authorizes two bidding methods based on these revenue collection techniques. One uses the cash bonus as the bid variable, with a fixed royalty (the "cash bonus bid"); the other uses a variable royalty with a

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49 43 C.F.R. § 3301.3 (1976). USGS prepares tract maps for each area well in advance of calls for nominations and announces their availability in the Federal Register.

50 BLM and USGS are both within the Department of the Interior.

51 43 C.F.R. § 3301.4, 3301.6 (1976).

52 *Id.* § 3301.5.

53 In contrast, Great Britain uses a procedure which measures proposed "work plans" according to administrative standards. Crommelin, *Offshore Oil and Gas Rights: A Comparative Study*, 14 Nat. Resources J. 457, 466 (1974); *Ad Hoc Hearings, supra* note 25, at 266-79 (statement of Colin Brandt, Counselor for Energy of the Embassy of the United Kingdom).

54 "Cash bonuses" are lump sums paid to the government for the right to explore and develop the leased tract.

fixed cash bonus (the "royalty bid").[55] Under both methods the percentage of proceeds owed under the royalty provisions remains constant throughout the period of production. The cash bonus method is the overwhelming choice in practice; the other has been used only once.[56]

Bids are sealed and must be accompanied by payment of twenty percent of the cash bonus.[57] BLM and USGS award the lease to the highest qualified bidder, but the agencies can reject all bids if none meets an acceptable minimum.[58] The remaining 80% of the bonus, one year's rent, and a bond must be paid upon execution of the lease.[59]

A lease term is at least five years, extending beyond this minimum as long as the tract continues to produce.[60] Annual rent, at whatever rate the Interior Department determines before the sale, is paid on the acreage of the tract until discovery of oil.[61] Tract size is limited to 5760 acres.[62]

A company's bidding strategy under the standard cash bonus bid first aims at calculating the probability of the existence of oil and gas, the quantity of oil and gas a tract may produce, the costs of discovery and production, and the price at which the oil and gas will be sold. In the competitive bidding situation, the

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55 43 U.S.C. § 1337 (1970).

56 The royalty bid was used for 10 tracts out of 287 offered in October 1974 for an area off Louisiana. Eight of the 10 tracts were bid on and leased. AD HOC H.R. REP. No. 1084, *supra* note 9, at 69.

Why the royalty method has been used just once is not clear. In testimony before the House Ad Hoc Committee, Secretary of the Interior Thomas Kleppe explained only that "the idea of testing alternatives was originated by Interior when, in October 1974, it tested the sale of tracts by royalty bidding.... This test revealed serious deficiencies in royalty bidding, and we believe it was a worthwhile experience for exactly that reason." *Ad Hoc Hearings, supra* note 25, at 2627.

57 43 C.F.R. § 3302.4(a) (1976). The 20 percent is refunded to unsuccessful bidders, after all the bids for all the tracts are opened.

58 *Id.* § 3302.5. In 1974, for example, a total of 443 tracts were bid on, but only 356 were leased. While a few of the 87 unleased tracts might be accounted for by "dropouts" of one kind or another, it is unlikely that many companies with sufficient interest to gamble on tracts would drop out after getting the lease sought. AD HOC H.R. REP. No. 1084, *supra* note 9, at 69. The explanation may be that many of the bids which are not accepted may be "fishing" bids — "minimal offers reflecting a willingness of a bidder to take the property as a speculation at a token price." KRUEGER STUDY, *supra* note 21, at 496.

59 AD HOC H.R. REP. No. 1084, *supra* note 9, at 69.

60 43 U.S.C. § 1337 (1970).

61 43 C.F.R. § 3303.1 (1976). Rents have been in the range of $3-5 per acre, although $10 an acre has been charged. KRUEGER STUDY, *supra* note 21, at 208.

62 43 U.S.C. § 1337 (1970). 5760 acres is equal to nine square miles.

company's optimal bid will equal the excess of expected revenue (price times quantity) over the costs of production, times the probability of finding petroleum.[63]

Calculation of the optimal bid thus requires a great deal of knowledge about the tracts involved; indeed, three of the four elements of the bidding formula depend directly on specific geophysical information. A company's initial bid calculation is likely to be discounted by its estimation of competitors' poorer access to or use of such information, since that inadequate data means increased risk and consequently lower bids by competitors.[64] The sealed bidding reinforces this discounting effect of information, since it aggravates uncertainty about competitors' positions and results in additional discounting when a generally low level of competition is expected.

In the absence of sound expectations about other companies' intents, calculations as to the extent of competition may be highly inaccurate. Competition may appear when unanticipated and fail to appear when expected. In the former situation, a company may lose the bidding; in the latter, the company may win, but it may leave considerable money "on the table" — that is, its winning bid may be much higher than necessary to win the lease.[65]

Objections to this bidding system under the OCSLA focus on two of its results. First, they point out the production inefficiencies of the cash bonus bidding method. As a pool of oil or gas is depleted, the production costs of extracting additional oil or gas rise.[66] Because the royalty due the government is fixed, drilling at some point becomes unprofitable even though actual production costs other than royalties are less than revenues. Often a company abandons the site, and oil which would have been pumped in the absence of the royalty payments is left

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63 For a clear description of this process, *see* Smith, *What's Behind These Billion Dollar Oil Lease Bids?*, N.Y. Times, August 29, 1976, § 3, at 3, col. 1. On a more abstract level, H. RAIFFA, DECISION ANALYSIS 7-38, 51-103 (1970), assigns what is called an "expected monetary value" to risks involving dollar amounts. The thesis is that a 1.0 probability of $100 should be of equal value to a .5 probability of $200.

64 A company's uncertainty about the amount of oil and gas present under a tract means that it will pay less for the chance to develop it. *See* note 63 *supra*. *See also* Crommelin, *supra* note 53, at 495.

65 KRUEGER STUDY, *supra* note 21, at 503-04.

66 KASH STUDY, *supra* note 5, at 180.

in the ground.[67] The only alternative method authorized by the OCSLA, the fixed royalty bid, merely compounds the problem: the higher the bidding, the higher the fixed royalty — and the earlier the tract is abandoned.

Second, objections point to the present system's anticompetitive effects. The major oil companies dominate offshore exploration and production. Singly or jointly, they account for eighty-one percent of offshore acreage leased and for ninety-seven percent of offshore petroleum production.[68] Critics relate this market domination to two causes. First, the cash bonus bidding method excludes smaller independents which cannot meet the requirement that all of the substantial bonus be paid before lease execution.[69] Second, only the large companies can afford the costly data-gathering necessary to undertake informed bidding.[70] Without adequate data, a company's development risks soar, preventing it from adopting a competitive bidding position.

B. *Leasing Procedures Under the Proposed Amendments*

1. Bidding Techniques

The proposed OCSLA Amendments attempt to remedy these perceived deficiencies of production inefficiency and an-

67 *Id.;* Krueger, *State Tidelands Leasing in California*, 5 U.C.L.A. L. REV. 427, 469 n.188 (1958).

68 KASH STUDY, *supra* note 5, at 93-99; *1972 Interior Hearings, supra* note 2, at 61. The distinction between "majors" and other oil companies is not easy to draw. The Kash Study suggests as distinguishing characteristics of the majors a high degree of vertical integration, the presence of marketing operations, and significant international operations. KASH STUDY, *supra* note 5, at 95-98. The federal government, in setting limits on the size of companies which are allowed to bid together in joint ventures, relies merely on the amount of daily petroleum production as the determinative criterion. 43 C.F.R. § 3302.3-2(a) (1976).

69 *See Ad Hoc Hearings, supra* note 25, at 541 (statement of Charles L. Neumeyer, Chairman of Executive Committee of the Associated Gas Distributors). *See also Oil and Gas Development and Coastal Zone Management: Hearings on Outer Continental Shelf Oil and Gas Extraction Before the National Ocean Policy Study of the Senate Comm. on Commerce*, 93d Cong., 2d Sess. 433 (1974) [hereinafter cited as *NOPS Hearings*] (reprinting Dillon, *Who Will Get Rich on Oil from the Sea?*, Christian Science Monitor, April 18, 1974).

70 AD HOC H.R. REP. No. 1084, *supra* note 9, at 98-99. The alternative explanation for exclusion of the independents holds that the overall costs and risks of offshore development, rather than the bidding arrangements, keep the independents out. Corrigan, *Demand for More Oil and Gas Prompts Review of Offshore Leasing*, 4 NAT'L J. 1109, 1115 (1972).

The risks involved were illustrated in testimony by Mr. Hollis M. Dole, *supra* note 16. In the early 1960's, Interior sold leases for an area off the coast of the Pacific Northwest for $35 million. The companies spent another $65 million over five years on exploratory drilling, but not a drop of oil was found. *1972 Interior Hearings, supra* note 2, at 10.

ticompetitiveness. Central to the proposed scheme is the addition of six new bidding methods to supplement the existing two,[71] with the requirement that the method most often used under current law, the cash bonus bid, not be applied to more than two-thirds of the lease areas offered in undeveloped regions of the shelf.[72]

Four of the new methods are designed to eliminate the production inefficiency of the fixed royalty methods. Three of them pair a variable cash bonus bid with, respectively, a diminishing or sliding royalty,[73] a fixed net profit share,[74] and both a fixed net profit share and a fixed royalty.[75] The fourth accepts bids on a net profit percentage and fixes the amount of cash bonus.[76]

The remaining two methods aim to ease independents' entry into the development process. A cash bonus bid is paired with either a royalty or a profit share, but bids are accepted for any number of one-percent shares of a single unified working interest in the lease area.[77] The highest bidders whose bid shares total one hundred percent would develop the tract, with the federal government participating as a non-voting party to any joint working group created to manage operations.[78]

A central feature of the creation of these alternatives would be the provision for experimentation with them and comparison of their relative merits. The Amendments would grant the Secretary of the Interior considerable discretion to experiment with the bidding methods during a five-year test period and judge their performance.[79]

Besides listing these six additional alternatives, the Amendments also would provide a statement of the purposes of the bidding system to guide the Interior Department's utilization of

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71 OCSLA Amendments, *supra* note 10, § 205 (proposed § 8(a)(1)).

72 *Id.* § 205 (proposed § 8(a)(6)(c)(i)). This limit is subject to the results of experimentation with the six alternatives during a five year period. *Id.* § 205 (proposed § 8(a)(c)(ii)).

73 *Id.* § 205 (proposed § 8(a)(1)(C)). A diminishing royalty decreases as total production rises; a sliding royalty decreases as per day production falls.

74 *Id.* § 205 (proposed § 8(a)(1)(D)). Under a net profit share arrangement, the producing company pays to Interior a percentage of its net profits, however defined.

75 *Id.* § 205 (proposed § 8(a)(1)(E)).

76 *Id.* § 205 (proposed § 8(a)(1)(F)).

77 *Id.* § 205 (proposed § 8(a)(1)(G), (H)).

78 *Id.* § 205 (proposed § 8(a)(5)(C)).

79 *Id.* § 205 (proposed § 8(a)(6)(A), (B)).

the various bidding methods. The proposed purposes are:

> (i) providing a fair return to the Federal Government,
> (ii) increasing completition [sic],
> (iii) assuring competent and safe operations,
> (iv) avoiding undue speculation,
> (v) avoiding unnecessary delays in exploration, development, and production,
> (vi) discovering and recovering oil and gas,
> (vii) developing new oil and gas resources in an efficient and timely manner,
> (viii) limiting administrative burdens on government and industry.[80]

This statement of purposes, however, lacks clarity of expression and miscomprehends the bidding process. For example, clauses (v), (vi), and (vii) express the same principle three times; one statement would suffice. The meaning of clause (iv) is not apparent, since speculation is the essence of offshore resource exploitation, no matter which bidding method is used. More important, the goal of clause (iii) has no relevance to the bidding process. Safety and bidding are linked only by the theory that high capital requirements will screen out incompetent operators.[81] Using capital requirements for this purpose is pointless, though, since small companies would be screened out regardless of competence and since oil companies subcontract the actual drilling anyway.[82] Safety and competence are better promoted through regulation of drilling and wellhead operations.

Therefore, the statement of guiding purposes should be condensed and refined to read as follows:

> (i) providing a fair return to the federal government;
> (ii) increasing competition;
> (iii) developing new oil and gas resources in an efficient and timely manner; and
> (iv) limiting administrative burdens on government and industry.

This restatement of the proper purposes of the bidding system provides the foundation for a critique of the six new bidding

80 *Id.* § 205 (proposed § 8(a)(6)(A)(i)-(viii)).
81 *Cf.* KASH STUDY, *supra* note 5, at 176.
82 *See* note 110 *infra.*

alternatives. While the new techniques have not yet been tested, preliminary evaluation in light of the stated purposes is possible.

Three of the four proposed alternatives which aim at reducing the production inefficiency of the constant-percentage royalty replace this royalty with devices which encourage oil and gas pool exhaustion.[83] However, these alternatives would create conflicts with the purpose of limiting administrative burdens which the constant-percentage royalty has thus far avoided.

The first proposed alternative, which would replace the fixed royalty with a diminishing or sliding royalty, would involve, in the case of a diminishing royalty, the calculation of a formula for diminution before the amount of oil in the tract is even roughly known. The government's uncertainty in the calculation would be as great as the companies' speculation in the bidding. Inaccurate estimates, moreover, could impair the receipt of a fair return to the government, since royalties cannot be revised upward.[84] The sliding royalty, based on per-day production, would avoid the administrative problems because that production is easy to measure; however, experience in California indicates that its use as a production inefficiency avoider can be counterproductive. There producers cut back daily production to hold down the royalties,[85] delaying the realization of the full value of the tract.

The two remaining alternatives which would eliminate the fixed royalty provide for a fixed net profit share.[86] Here again, administrative burdens accompany the gain in production efficiency. Calculation of net profits, even if the precise means of doing so are announced by the Department of the Interior,[87] entangles the Department in the same kind of business as the Treasury — figuring taxable income. Interior lacks the exper-

83 *See* text accompanying note 75 *supra.*

84 The Amendments would authorize the Secretary of the Interior only to lower a royalty, in order to prolong production. OCSLA Amendments, *supra* note 10, § 205 (proposed § 8(a)(3)).

85 Krueger, *State Tidelands Leasing in California*, 5 U.C.L.A. L. REV. 427, 445 n.94 (1958).

86 *See* text accompanying notes 74, 76 *supra.*

87 OCSLA Amendments, *supra* note 10, § 205 (proposed § 8(a)(4)).

tise to carry out successfully this difficult task of measurement and definition.

Moreover, these net profit share methods would create a potential conflict of administrative roles. The Interior Department, in its control of OCS development, may establish safety regulations which would increase production cost.[88] Under the net profit share methods, the increased costs would result in a lower return to the government, while under all other methods the return would be unaffected. Thus, choosing a net profit share method would mean that Interior's role as a guarantor of a fair return to the government could interfere with its conscientious performance of its role as safety regulator.[89]

The fourth new alternative does not eliminate the production-inefficient constant-percentage royalty.[90] Instead, it reduces the size of the royalty and combines it with a net profit share. This combination, however, merely adds the inefficiency of a constant percentage royalty to the administrative burden of a determination of net profit shares.

In addition, these four proposed alternatives would correct only insubstantially the anti-competitive impact of the present system. Three of the four retain the cash bonus as the bidding variable, thus retaining the present system's substantial barrier to independents' entry into the OCS development process.[91] The remaining method sets net profit share as the bid variable and fixes a cash bonus, thus permitting the Department of the Interior to lessen the anti-competitive barrier by setting the size of the bonus below the amounts usually achieved when it is the bid variable. The Department probably could not in practice lower the bonus to truly competitive levels, however; relatively small decreases in the cash bonus would result in much larger increases in the size of the net profit share bids.[92] Significant decreases in the cash bonus, then, would send the government's share in the profits to confiscatory levels.[93]

88 *See, e.g.*, 30 C.F.R. § 250.41(b) (1976) (requiring, in 1969, installation and periodic testing of storm chokes and automatic safety valves).

89 This conflict is suggested in general terms in KASH STUDY, *supra* note 5, at 105.

90 *See* text accompanying note 76 *supra*.

91 *See* note 69 *supra*.

92 *See* KASH STUDY, *supra* note 5, at 181. In Kash's example with royalties instead of net profit shares, "everything else being equal, the sealed bonus bid might be expected to drop by 20 percent if the royalty rate were raised from 1/6 to 1/3. If this is so, raising the royalty rate will not do much to decrease the initial capital requirement." *Id.*

93 The use of these four bidding methods could result in some improvement in

Thus, these four bidding alternatives would not answer the criticism of production inefficiency satisfactorily. While three of them would increase production efficiency, their use would directly conflict with another congressional goal, avoidance of administrative burdens; the fourth would barely further any of the congressional purposes. Neither would any of the four significantly improve the present lack of adequate competition.

As a response to the criticism that the cash bonus constitutes a barrier to small company participation in OCS development, the fifth and sixth alternatives would attempt to increase independents' access to OCS oil and gas through a splitting of a single lease into one percent shares of an undivided interest.[94] The potential success of the scheme is difficult to judge, given the Amendments' failure to specify the maximum number of shares one company might obtain, or even to direct the Secretary of the Interior to establish guidelines for regulation.

Beyond this failing, use of these methods could also compromise an enunciated objective of the legislation. Whereas Congress's production efficiency alternatives would conflict primarily with avoidance of administrative burdens, here the pro-competitive alternatives could conflict with assuring the government a fair return. Experience under the cash bonus bidding method has shown that the combination of a cash bonus bid and a single winner consistently produces substantial government revenues from bonuses.[95] In promoting competition through the use of the one-percent share bids, the Secretary would sacrifice the certain revenues of the single winner methods for the unknown effects on revenue of multiple winners. The House Ad Hoc Committee was particularly concerned about revenue loss in cases where the submitted one-percent share bids accounted for less than one hundred percent of the lease interest, and the unleased portion had to be reoffered.[96] In that case, all bidders in the second lease sale

competition, as the Amendments would authorize the Secretary of the Interior to defer, at his discretion, the payment of the cash bonus. OCSLA Amendments, *supra* note 10, § 205 (proposed § 8(a)(2)). The beneficial results of this provision are not clear, however, since all bidders, big and small, could take advantage of the deferral, and since the use of the provision would be purely discretionary.

94 *See* text accompanying note 77 *supra.*

95 *See, e.g., Ad Hoc Hearings, supra* note 25, at 170.

96 AD HOC H.R. REP. No. 1084, *supra* note 9, at 91. The reoffering of the unleased portion is authorized in OCSLA Amendments, *supra* note 10, § 205 (proposed § 8(a)(5)(A)).

would be companies who had failed to bid at winning levels in the first sale.

The Amendments recognize this problem in providing that the Secretary of the Interior may cancel a bidding result if a fair return would not be assured.[97] But this hardly resolves the basic conflict of objectives.

Further conflicts would arise in the management of the joint venture. Efficiency of production could suffer in the coordination of participants, and the administrative burden on the companies and on the government would necessarily be greater than with single firm development.[98]

This analysis of Congress's attempt to correct the two undesirable results of the present bidding system through the addition of alternative bidding methods suggests two conclusions. First, within the constraints of the guiding principles, the alternatives could not accomplish their remedial objectives without disrupting other congressional goals. The principles offer no guidance on how the conflicts should be resolved.

Second, the extent to which the alternatives are tested and the benefits and burdens of each are discovered depends entirely upon the Secretary of the Interior's use of his discretion.[99] The Amendments provide no standards for minimum use of each alternative, an omission which is especially troublesome with regard to the pro-competitive alternatives. To achieve efficient production, the Secretary could, as an exceptional measure, subsidize production by reducing or eliminating a royalty or net profit share belonging to the Government.[100] But, as analyzed, the bidding system would have little pro-competitive impact except through the use of the one percent share methods. Thus, Congress should set a minimum use requirement for those alternatives to guarantee at least some experience with a pro-competitive solution.

2. Access to Exploration Data

The proposed Amendments also appear to respond to the criticism that lack of small company access to exploration in-

97 OCSLA Amendments, *supra* note 10, § 205 (proposed § 8(c)(5)(B)).

98 *See generally* Alchian & Demsetz, *Production, Information Costs, and Economic Organization*, 62 AM. ECON. REV. 777 (1972).

99 *See* text accompanying note 79 *supra*.

100 OCSLA Amendments, *supra* note 10, § 205 (proposed § 8(a)(3)).

formation impedes competition. That response would be provided outside the bidding system, in a proposal to establish Interior Department gathering of such information:

> At least once in each frontier area, the Secretary shall seek qualified applicants to conduct geological explorations, including core and test drilling, for oil and gas resources in those areas . . . which the Secretary . . . regards as having the greatest likelihood of containing significant oil and gas accumulations.[101]

On its surface, the proposal seems designed to supplement the current system of private company data collection with a centralized, public one. The intended impact of the proposal, however, is much smaller.

The House Ad Hoc Committee noted, first of all, that the proposed explorations would not be supported by government funding.[102] The Secretary would only organize joint exploration activities to be conducted privately by oil and gas companies. As in present practice, moreover, only those companies contributing to the expenses of the exploration would share the data.[103] Apparently, Congress merely intends that Interior involve more companies in each of its joint exploration ventures than are currently involved in private arrangements.[104]

Even with this limited impact, though, the Amendments leave problems of administration unresolved. For example, it is unclear how much participation would be required in order to share in the data. One would expect that there exist minimum levels of contribution below which sharing is not justified, and maximum levels which no company would be willing to surpass and still share information equally. Yet it would defeat the purpose of the Amendments to divide and distribute informa-

101 *Id.* § 206 (proposed § 11(g)).

102 AD HOC H.R. REP. No. 1084, *supra* note 9, at 98.

103 *Id.* 99.

104 Section 11(h) apparently provides for governmental data collection and for distribution with no contribution requirement:

> The Secretary is authorized and directed to contract for exploratory drilling . . . for national security or environmental reasons or for the purpose of expediting development in frontier areas. Such exploratory drilling shall not be done in areas included in the leasing program . . ."

OCSLA Amendments, *supra* note 10, § 206 (proposed § 11(h)). The last sentence means that the "free" data gained from this government-funded exploration would not be available for most shelf areas to be leased, since they would be included in the five-year leasing program.

tion according to companies' relative contributions. In addition, the Amendments provide no affirmative direction to include smaller oil and gas companies in the joint explorations.

The incompleteness of this response to the information problem, then, detracts from its effectiveness as a pro-competitive device.[105] Under the vague statutory language of the proposal, the Secretary of the Interior would have discretionary power to implement or not, as he sees fit, the provisions of the Amendments to vindicate the statutory policy favoring competition.

C. *Conclusion*

This shortcoming in the area of exploratory information reinforces the inadequacies of the proposed bidding system provisions. Congress may have attempted in the Amendments to answer charges of production inefficiency and anticompetitive effect, yet its responses in practice would be much less effective than Congress supposed. Indeed, whatever effect the Amendments would have would depend largely upon the Secretary of the Interior's constructive use of his broad discretion.

As suggested in this section, Congress can be more explicit in several provisions. First, the Amendments should state priorities in the listing of goals for the bidding process, so that the Secretary will have guidance in using his discretion beneficially during the experimental period. Second, they should provide affirmative direction to use each of the bidding alternatives in a stated minimum percentage of cases, so that any advantages of each alternative would be discovered. This would be crucial with respect to the undivided working interest bids, since they offer the only real opportunity for improving competitiveness. Finally, within the limited reach of the data gathering and distribution provision, the Amendments should clarify how the sharing of exploration and distribution would function, and should require increased small company participation.

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105 The proposal does offer some improvements of the present exploratory system apart from its small effect on competition. First, it would shift the initiative for locating the areas to be studied as potential lease sites from the oil and gas companies to the Interior Department. *1972 Interior Hearings, supra* note 2, at 125. Second, the provision for test drilling would exceed present exploratory limits, since Interior routinely has allowed only indirect testing. 30 C.F.R. § 251.5(a)(2) (1976); KASH STUDY, *supra* note 5, at 29-30.

III. Protecting the Environment Against the Effects of OCS Oil Production

Environmental concerns play a large role in the first stage of OCS oil and gas development: The decision about where on the shelf to allow exploitation. In that stage, the concerns focus on the danger of environmental dislocation resulting from the establishment of drilling operations. However, environmental interests do not disappear for the rest of the development process; once the location decision is made and leases are awarded, these interests resurface in the form of concern over damage to the environment from oil production accidents.

Detailed regulations and regional "OCS Orders" currently govern lessee operations in technical and safety matters.[106] In several significant respects, though, the government's continental shelf regulation scheme fails to take account of the danger of oil pollution. Critics of the OCSLA point to the following problems: (1) Little baseline information[107] on OCS marine life and on fundamental physical processes affecting the shelf is available.[108] (2) No one knows the long-term effects of oil seepage on marine life.[109] (3) Incidents of release of petroleum into OCS waters are highly likely under existing standards,[110] but

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106 The regional orders are issued for five OCS regions: Alaska, West Coast, Gulf Coast, Mid-Atlantic and North Atlantic. Current OCS Orders, Interior regulations, OCS legislation, and Board of Land Appeal administrative adjudications are collected in Gower Federal Service (OCS), published by the Rocky Mountain Mineral Law Institute, Univ. of Colorado, Boulder, Colorado.

107 "Baseline information" refers to data on the characteristics of the OCS before development. Such information is the basis from which to measure changes in studies after development.

108 Kash Study, *supra* note 5, at 139-47.

109 The Louisiana experience in over 25 years of offshore oil production shows no apparent detrimental effects on commercial fish species. However, not only may the Louisiana situation differ from that of other areas, but the knowledge necessary to evaluate long-term effects takes time to accumulate.

> It has taken Louisiana nearly 15 years to develop the hydrographic patterns, temperature variations, river flows, and rainfall analysis to be able to predict the annual expected production of shrimp, oysters, and menhaden.
>
> Without knowing the extremes of fluctuations in a normal system . . . it would be impossible to determine the effects of oil spills . . . with any degree of accuracy.

Ad Hoc Hearings, supra note 25, at 69 (statement of Dr. Lyle S. St. Amant, Louisiana Wild Life and Fisheries Commission).

110 In the period between December 15, 1976, when the Liberian tanker *Argo Merchant* ran aground, and the first week of January, 1977, two tankers spilled a total of 138,000 gallons of oil within U.S. waters, and another was lost at sea off the coast of

federal law does not presently hold polluters liable for damages from oil spills.[111] This failure to fix liability results both in inadequate deterrence against spills and in inadequate compensation for damages after spills.

The 1976 Amendments address all three criticisms.

A. *The Lack of Information Under the OCSLA*

The proposed Amendments would seek to alleviate the problems of insufficient information in two ways.

First, before the production phase of a major new area of development could commence, the Interior Department would have to prepare a second environmental impact statement for at least one of the tracts involved.[112] This supposedly would remedy the deficiencies of the first environmental impact statement, which is necessarily based on information obtained before the start of exploration. The second statement would benefit from geological information developed during the lessee's exploration activities after the lease sale and thus would provide a more complete picture of the environmental impact of the production activities.

New England with 8.2 million gallons of oil. The *Argo Merchant* carried 7.3 million gallons. Perry, *Avast! . . . Rust Buckets*, The National Observer, Jan. 22, 1977, at 5.

Blowouts and seepages from stationary platforms are another source of petroleum pollution in OCS waters. *NOPS Hearings, supra* note 69, at 34 (statement of Russell Peterson, Chairman, Council on Environmental Quality). The offshore blowout on Union Platform "A" in the Santa Barbara Channel in January, 1969, and the resulting oil spill are generally considered to have catalyzed passage of the National Environmental Policy Act, 42 U.S.C. § 4321 (1970). KASH STUDY, *supra* note 5, at 10.

A blowout occurs when the pressure of the petroleum trapped underneath the ground exceeds the pressure of the drilling muds which surround the drilling shaft. Blowout preventers, essentially manual devices to close the pipe, are only as effective as the crews which operate them. *Id.* 114-17.

Compare the remarks of Robert C. Sharp, former oil executive and member, Environmental Quality Board of Santa Barbara, California, who charges that the competence of the drillers with whom the oil companies contract for actual drilling is not an important factor in choosing the drillers, *with* the reply by Humble Oil Company officials, in *1972 Interior Hearings, supra* note 2, at 1125-40.

111 Federal law does impose liability for cleanup costs; that imposition and the distinction between cleanup costs and damages are discussed in the text accompanying notes 117-19 *infra*.

112 OCSLA Amendments, *supra* note 10, § 208 (proposed § 25(d)). The section would specifically exempt the already developed Gulf of Mexico and Santa Barbara regions from the environmental impact statement requirement. Those regions also would be exempted from the additional requirement that lessees submit both exploration plans and production plans before production can begin. *Id.* § 208 (proposed § 25(a)).

Second, the Department of Commerce, through its National Oceanographic and Atmospheric Administration (NOAA), would be obliged to conduct baseline and monitoring studies in areas leased or about to be leased.[113] The scope of the baseline studies would encompass the "status of the human, marine, and coastal environments of the outer Continental Shelf and coastal areas . . . ," and the possible effects on marine biota from chronic pollution, spills, drill cuttings and muds, and pipelaying.[114]

It should be noted that, although the second environmental impact statement would reflect fuller information than the first, its effect on development probably would be small. In the Amendments' scheme, the impact statement would not enter into the Secretary of the Interior's consideration of the environmental effects of production until after the lessee had submitted its production plan.[115] Having sold the lease rights, contracted for continuing revenue from production, and negotiated an acceptable production plan, the Secreatary would have little incentive to make major changes in the plan based upon an impact statement's negative conclusions.[116] Thus, even though the second impact statement would augment understanding of the OCS in the long run, it is likely that the information obtained would rarely lead to the overturning of use decisions already made.

B. *The Failure of the OCSLA to Impose Liability for Damages*

An oil spill on OCS waters can result in two distinct kinds of losses. One is cleanup costs incurred by federal, state, and local governments; the other is private damage to property or to

113 *Id.* § 208 (proposed § 20).

114 *Id.* § 208 (proposed § 20(a)(1), (4)). Undoubtedly the first environmental impact statement for an area to be leased would incorporate NOAA baseline studies.

The Amendments would order continued monitoring of leased areas as deemed necessary, which would permit NOAA to choose those areas of most importance out of the many areas available for monitoring. *Id.* § 208 (proposed § 20(h)). Suspension of lease operations can occur in the event of a "threat of serious, irreparable, or immediate harm or damage to life (including aquatic life), . . . or to the marine, coastal, or human environment . . . ," *Id.* § 204 (proposed § 5(a)(1)), and the NOAA monitoring could serve as an early-warning device for such threats.

115 *Id.* § 208 (proposed § 25(g)(1)).

116 *See* Breeden, *supra* note 8, at 1157 n.218.

earning capacity.[117] Under the present system, the treatment of the two differs drastically. An Interior Department regulation, promulgated after the Santa Barbara blowout in 1969, holds platform operators strictly liable for cleanup costs resulting from spills on OCS waters, with no limit on the amount of liability.[118] For damages, in contrast, no liability attaches to polluters for OCS spills.[119]

This section focuses on the proposed Amendments' remedy for the failure to impose liability for damages, and notes the changes in the treatment of cleanup costs.[119a] The discussion of the proposed imposition of liability analyzes how well it would meet its two objectives: compensation of damaged parties and deterrence of behavior which increases the risk of spills.

1. Compensation

The Amendments would establish three interrelated schemes to compensate parties damaged by an oil spill. First, the

117 For a clear example of this separation of losses, *see* OCSLA Amendments, *supra* note 10, § 301(1), (2).

118 30 C.F.R. § 250.43(b) (1976). Within the 12 mile contiguous zone, the Federal Water Pollution Control Act, 33 U.S.C. § 1151 (1970), *as amended by* Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. § 1251 (Supp. II 1972), has provided since 1948 for strict liability for cleanup costs, with a ceiling of $8,000,000. § 1321(f)(3).

119 The OCSLA, 43 U.S.C. § 1331 (1970), makes no special provision for federal damage liability. The Federal Water Pollution Control Act, 33 U.S.C. § 1251 (Supp. II 1972), specifically avoids a federal statutory imposition of liability for damages caused by spills within the twelve mile contiguous zone. § 1321(o).

119a President Carter on March 17, 1977 transmitted to Congress comprehensive oil spill liability and compensation legislation, 35 CONG. Q. WEEKLY REP. 552, 568 (March 26, 1977), which closely parallels the scheme of the Amendments. The proposal, introduced as S. 1187, 95th Cong., 1st Sess., 123 CONG. REC. S5133 (daily ed. Mar. 30, 1977), would cover all sources of oil spills, including foreign tankers and OCS platforms and transport vessels. Thus, the legislation could supercede the Amendments' OCS liability scheme.

Even if the Administration proposal were enacted, however, it is similar enough to the Amendments that effective compensation and deterrence would still be realized in the manner analyzed in the text. The legislation would provide for the imposition of strict damage liability and for the creation of a $200 million compensation fund and an administrative claims procedure. One variance from the Amendments' model is that foreign tanker owners would not pay any of the per-barrel tax which would finance the comprehensive fund, but that tax has little deterrence impact anyway. *See* note 140 *infra*.

The Administration proposal is similar in conception to legislation introduced earlier in the year by Rep. Gerry E. Studds (D-Mass.). H.R. 47, 95th Cong., 1st Sess., 123 CONG. REC. H79 (daily ed. Jan. 4, 1977). *See* Studds, Oil and Water, TRIAL, March 1977, at 43-46.

Amendments would impose strict liability on owners and operators of offshore facilities and vessels for spills in OCS waters.[120] ("Vessels," however, would be narrowly defined to include only those "transporting oil directly from an offshore facility."[121]) The Amendments would limit strict liability to thirty-five million dollars for facilities[122] and to one hundred fifty dollars per gross registered ton for vessels.[123]

Unlimited liability would attach, however, upon a showing of gross negligence or willful misconduct, or of a violation of safety, construction, or operating standards.[124] Conversely, no liability would attach to spills caused by "(1) an act of war, or (2) the negligent or intentional act of the damaged party or of any third party . . ."[125]

These proposed liability provisions would allow private claimants to recover a broad range of damages. The range would include the value of damage to real and personal property; the cost of restoration of the property and any income necessarily lost through such restoration; and, most significantly, any loss of income for a maximum of five years resulting from oil damage to property or resources, if the claimant derives at least twenty-five percent of his income from the use of such property or resources.[126] In practice, such damages could, for example, occur to private boats and

120 OCSLA Amendments, *supra* note 10, § 308(b), (c).

121 *Id.* § 301(13).

122 *Id.* § 308(h). One study gives these estimates of the dollar amount of the damages caused by the Santa Barbara oil spill of 1969:

Loss of fish and wildlife	$ 32,400
Damage to commercial fishing industry	804,250
Property value loss	1,197,000
Recreational value lost	3,150,000
Total damages	$5,183,650

1972 Interior Hearings, supra note 2, at 157 (citing study by Mead & Sorenson, *The Economic Cost of the Santa Barbara Oil Spill*). Three other major spills resulted in no damages at all. *Id.* 157-58 (source of information not given).

While the 35 million dollar ceiling appears more than adequate based on the above data, the definition of damages used to arrive at the figures was likely narrower than the broad definition of the proposed Amendments. *See* text accompanying note 126 *infra.*

123 OCSLA Amendments, *supra* note 10, § 308(c). The Deepwater Ports Act of 1974, by contrast, limits liability for cleanup costs and damages to $20 million or to $150 per gross registered ton of the vessel, whichever is lower. Liability attaches only within the "safety zone" around offloading ports. 33 U.S.C. §§ 1509(d)(1), 1517(d) (Supp. IV 1974).

124 OCSLA Amendments, *supra* note 10, § 308(b), (c).

125 *Id.* § 308(d).

126 *Id.* § 307(1)-(3).

beaches, to hotel waterfronts, to commercial fishing equipment, and to the income of commercial fishermen.

Second, the Amendments would create an Offshore Oil Pollution Compensation Fund within the Department of Transportation, financed by a per-barrel tax on OCS oil production.[127] The Fund would have two principal functions. It would finance cleanup costs incurred by governmental bodies in removing spilled oil or in minimizing its impact on public property,[128] sparing those bodies the task of suing the polluter. The Fund would then be subrogated to their rights to recover the cleanup costs.[129]

In addition, the Fund would compensate claimants who file under the third scheme of the compensation provisions, the administrative claims procedure.[130] Designed to provide full compensation for all damages from oil spills,[131] the claims procedure would be available as an alternative to the delays and costs of court action. It would swiftly compensate qualified claimants,[132] without regard to the proposed ceiling on liability or to the legitimate defenses of the polluter.[133] The Fund would be subrogated to the claimants' recovery rights in court, and therefore would be subject to the liability limits and defenses.[134] Thus, the Amendments would construct a two-step compensation procedure: recovery by claimants from the Fund, and recovery by the Fund from the polluter.

After the first claim for damages from a particular spill is filed, the alleged polluter would formally either deny or admit

127 *Id.* §§ 302(a), 310(a)(1). The tax would be modified as needed to keep the Fund account between $100,000,000 and $200,000,000. *Id.* § 302(a)(2).

128 *Id.* § 309(a)(2).

129 *Id.* § 309(b). The Amendments would also incorporate into statutory law the strict liability for cleanup costs currently provided by Interior Department regulation. *Id.* § 308(a); *see* note 118 *supra*.

130 OCSLA Amendments, *supra* note 10, §§ 309(a)(3), 313.

131 The House Ad Hoc Committee declared, "[i]t is the intent of the Committee that the Fund provide full and complete compensation for all damages caused by oil discharges from offshore facilities and vessels." AD HOC H.R. REP. No. 1084, *supra* note 9, at 128.

132 "Qualified claimant" means one who has passed the administrative determination of compensability of damages. That determination would involve examination of the size of the claim by private insurance companies or claims adjusters, plus a judicially reviewable administrative hearing for any disputes. OCSLA Amendments, *supra* note 10, § 313(g)-(j).

133 This feature is explained in AD HOC H.R. REP. No. 1084, *supra* note 9, at 128.

134 OCSLA Amendments, *supra* note 10, §§ 309(h), 308(b), (c).

liability. A denial would trigger both automatic compensation of all qualified claimants by the Fund and a notice procedure which would seek to alert all damaged persons of their rights.[135] An admission of liability would be unlikely, as it would require the polluter to evaluate claims and pay claimants directly, and to finance the notice procedure.[136]

The Pollution Fund and the administrative claims devices for compensating damages from oil spills constitutes a complete and effective answer to the compensation concern. Although the Amendments would also provide damaged parties with judicial recourse to strict liability principles, virtually no party would choose the courts over the claims procedure. The latter would involve comparatively little expense, recognize the same damages as would the courts, expedite compensation, and set no limit on recovery.

Although the result that the administrative procedure would handle all the damage claims arising from an oil spill would reflect the desire of Congress, it would also render unnecessary the carefully-drawn provision which deals with class actions. The provision would authorize the Secretary of Transportation to determine whether a group of court claimants would be "more adequately represented" as a class, with Justice Department support.[137] But the likely effectiveness of the claims procedure as a compensation scheme indicates that the group's interests would be best represented out of court instead. The reason for this special treatment of class actions when the claim procedure makes them unnecessary defies understanding.

2. Deterrence

The imposition of liability for oil spill damages on the polluter not only can afford compensation to those damaged, but also can reduce the likelihood that spills will occur. This deterrence operates through the assessment of the external costs of pollution[138] against the polluter itself. Internalized in this man-

135 *Id.* § 313(a), (c). The proposed notice procedures would be extensive, and would represent an improvement over the terms of a similar compensation scheme established for offshore unloading of oil by the Deepwater Ports Act of 1974, 33 U.S.C. § 1517(f)(1) (Supp. IV, 1974), which provides for no notice at all.

136 OCSLA Amendments, *supra* note 10, § 313(c)(1), (e)(1), (f)(2).

137 *Id.* § 315.

138 The costs of pollution consist of its harmful effects on society, such as property

ner, the pollution costs become a factor in the producer's business operations; the producer will expend resources to reduce the occurrence of pollution and resultant costs as long as the pollution costs avoided exceed the internalized expenditures.[139]

Private damages from oil spills are external costs under the existing OCSLA scheme, since the statute imposes no damage liability on OCS polluters. The proposed Amendments would attempt to meet this failure by assessing these costs against the polluter through the strict liability provisions.[140] The extent to which deterrence would result from the Amendments' effort depends upon the effectiveness of the proposed imposition of strict liability.

Since practically all private claimants would use the administrative compensation procedure which the Amendments would establish,[141] the strict liability provisions would in practice operate against a polluter only when the Fund, subrogated to the claimants' rights, sought to recover the aggregated damage amount. Therefore, the polluter, facing all the damage liability in one suit, would have a powerful incentive to delay the litigation and defer any large payment to the Fund. The longer the deferral, the lower the present value of the eventual liability assessment, and the less deterrent effect the Amendments' strict liability for damages would provide.

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damage and cleanup expenses. "External costs" of pollution are those costs which the polluter does not bear. For example, damage to private property which the polluter does not compensate in some manner represents external costs. Such costs, however, could be transformed into "internal costs," or "internalized," through imposition of a tax on the release of pollution or through imposition of liability for the damage. *See* Ruff, *The Economic Common Sense of Pollution*, THE PUB. INTEREST, no. 19, at 72-73 (1970).

139 *See, e.g., id.* 79. The deterrence achieved through this internalization is an example of Professor Calabresi's "general" or "market" deterrence:

> The general deterrence approach treats accident costs as it does any other costs of goods and activities . . . If all activities reflect the accident costs they "cause," each individual will be better able to choose for himself whether an activity is worth the accident costs it "causes."

G. CALABRESI, THE COSTS OF ACCIDENTS 70 (1970).

140 The per-barrel tax on OCS oil production which finances the Fund, *see* text accompanying note 127 *supra*, would have little impact as a deterrent against risk-creating behavior. First, whatever deterrent effect it would have could be no greater than the portion of the per-barrel tax not passed directly on to the consumer. Second, behavior which reduced the risk of spills would have a minimal relation to a reduction in the tax paid, since that reduction would depend upon the preventive measures taken by all other OCS oil producers.

141 *See* text following note 136 *supra*.

The Amendments, however, would respond specifically to these anti-deterrent results. When the Fund finally collected from a polluter, the amount collected would include a charge for "interest on that amount, at the existing commercial interest rate, from the date upon which the request for reimbursement was issued from the Fund . . . to the date on which the Fund is paid. . . ."[142] This interest charge would cancel the incentive to delay, as the present value of a polluter's eventual payment to the Fund could not decline as litigation continued. Moreover, the Amendments would strengthen this disincentive to delay by imposing on the polluter "administrative costs" incurred by the Fund in obtaining its judgment.[143]

The Amendments would improve the enforceability of these provisions by requiring owners and operators of offshore facilities and the vessels covered under the Amendments to maintain evidence of financial responsibility with the government.[144] Thus oil companies and vessel owners would necessarily participate in the incentive system which strict liability would establish. Additionally, the Fund would have the assurance of being able to collect judgments in its favor, subject to the statutory liability limits.

Certain language in the Amendments' strict liability scheme, however, might introduce barriers to the smooth functioning of their deterrence mechanisms. First, the exemption from liability of owners when pollution resulted from the acts of third parties[145] might provide an issue of statutory interpretation with which a polluter could attempt to avoid or defer liability. Since oil companies subcontract the drilling operations on the OCS,[146] they could seek a judicial determination of whether the exemption from strict liability for acts of third parties would include acts of drilling subcontractors. Although principles of agency[147] could make company success on the issue unlikely, at

142 OCSLA Amendments, *supra* note 10, § 309(d)(2).

143 *Id.* § 309(d)(3). The administrative costs imposed would include "costs of investigation, processing, hearings, appeals, and collection."

144 *Id.* § 311(a), (h). Financial responsibility would be established by insurance, surety bonds, or qualification as a self-insurer.

145 *See* text accompanying note 125 *supra*.

146 *See* note 110 *supra*.

147 The issues involved in litigation could be, first, whether the driller is a servant of the owner of the platform or is an independent contractor, and second, even if a servant, whether the driller has acted so as to take itself outside the scope of the agency.

least the issue would require litigation which effective strict liability would avoid. The companies would have to weigh their chances of prevailing on this issue, however, against the otherwise effective measures to discourage deferral of payment described above.[148]

A second limitation on the full operation of the proposed Amendments' deterrence effects lies in the narrow definition of vessels subject to the liability provisions. The definition would cover only vessels which transport oil from OCS platforms to shore;[149] thus it would not reach vessels carrying oil across the OCS from foreign sources, and would leave untouched the major OCS pollution problem of foreign tanker oil spills.[150] Although Congress might adopt similar liability mechanisms to deal with the problem or to create a comprehensive oil spill liability scheme, it should do so in legislation separate from these Amendments.[151] Liability of foreign vessels not directly involved with the regulated offshore production of American oil would introduce international complexities beyond the Amendments' concern with OCS development.

Beyond these two difficulties, there exists a serious impediment to creating effective deterrence in the Amendments' scheme and in strict liability schemes generally — the availability of insurance. To the extent that OCS oil producers and vessel owners self-insure they would feel the Amendments' deterrent effects directly.[152] But the ability to insure against the imposition of strict liability would permit the potential polluter to spread damage liability over time through premiums and avoid facing the likelihood of compensating all damages in one payment. Thus, when the polluter calculates whether the expense of adopting safer behavior is less than the expected

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On the first question, the standard distinguishing factors offer no clear classification of the driller's position. *See, e.g.,* RESTATEMENT (SECOND) OF AGENCY §§ 2(1)-(3), 219-20 (1957). On the second, the agency relationship would end, and the driller become a third party, when the driller commits "acts which are clearly inappropriate or unforeseen in the accomplishment of the authorized result." *Id.* § 231, comment a, 513.

148 *See* text accompanying notes 142-43 *supra.*

149 *See* text accompanying note 121 *supra.*

150 *See* note 110 *supra.*

151 Legislation to create a comprehensive oil spill liability and compensation structure has been introduced in the 95th Congress. *See* note 119a *supra.*

152 The Amendments contemplate that some companies will be able to self-insure. *See* note 144 *supra.*

amount of damage liability that the safer behavior would avoid,[153] it would measure the safety expense against the expected avoidance of a marginal increase in premiums, and not against the avoidance of full damage responsibility.[154]

Since premiums would vary with a producer's history of spills, with the quality of its equipment, and with the safety orientation of its operations, however, some deterrence would remain. Given the levels of potential liability provided in the Amendments — certain damage liability up to thirty-five million dollars, becoming unlimited if the polluter has, for example, violated a safety regulation[155] — that remaining deterrence would likely be substantial.

IV. Conclusion

The 1976 Amendments to the Outer Continental Shelf Lands Act represent the 94th Congress's proposed responses to the mounting crisis of energy supply and to criticisms of oil and gas development of the OCS under the OCSLA. Of the three responses examined in this Comment, however, two are riddled with inconsistencies between what Congress intended to do and what the Amendments would bring into existence.

As a framework for deciding where to locate oil and gas development on the shelf, the Amendments would establish an interest representation scheme within which balancing of competing developmental interests would occur. Analysis of the proposed guidelines of the decisionmaking process, however, reveals that the balancing scales would be tipped toward decisions to use the shelf for oil and gas extraction, limiting the extent of other potentially more beneficial uses. Given the lack of information about the OCS which restricts knowledge of the consequences of use decisions, these other uses merit equal

153 *See* text accompanying note 139 *supra.*

154 Calabresi describes another deterrence-reducing effect of some insurance, which he calls "externalization due to transfer." In his example of car-pedestrian accidents, he notes that an attempt to lower the number of such accidents by imposing their costs on the pedestrian would fail to change the pedestrians' behavior, if the costs were actually paid by social insurance to which all taxpayers contribute. G. Calabresi, *supra* note 139, at 246. The Amendments' imposition of pollution costs would not involve a reduction of deterrent effect due to this externalization, as the class of accident causers would exactly equal the class of insurance contributors.

155 *See* text accompanying notes 122-24 *supra.*

voice in the interest representation procedure. Adoption of a multiple use philosophy of OCS development would achieve this goal.

In deciding who would do the extracting, the Amendments attempt to remedy the inefficiency and anti-competitiveness of the existing lease bidding process by providing six additional bidding methods and authorizing considerable experimentation with them. In fact, the use of the various bidding alternatives to improve production efficiency and enhance competition would necessarily conflict with other stated goals of the bidding process, and, in the absence of any congressional direction, would lie almost entirely within the discretion of the Secretary of the Interior. Congress must either reconsider the goals it would set for the bidding process or indicate which of the proposed goals should take precedence, and incorporate the directives suggested above[156] to reduce discretion and to guarantee full benefits from the alternatives experiment.

Finally, the Amendments would address the effect of OCS oil pollution on the environment. Here, the intent of Congress is likely to be satisfied. The Amendments would help accomplish the crucial goal of gaining OCS environmental information, although the extent of the accomplishment would depend upon the extent of congressional appropriations. The Amendments would also effectively provide compensation for spill damages through the administrative procedure and the Fund, and deterrence against spills through the imposition of strict liability.

The 95th Congress should recognize the deviations of the 1976 proposals from the proposals' stated objectives and should eliminate these deviations in new amending legislation. Only then would the Amendments fully respond to OCS development problems.

156 *See* part II G *supra.*

BOOK REVIEW

PUBLIC EMPLOYEE PENSION FUNDS. By *Robert Tilove*, New York: Columbia University Press, 1976. Pp. 362, index. $15.00.

*Reviewed by Robert J. Myers**

I. INTRODUCTION

This book, commissioned by the Twentieth Century Fund, is "must" reading for all who are directly concerned (*e.g.*, legislators, administrators, policymakers, and officials of employee organizations) with pension plans for governmental employees. Members of the public who are worried about soaring tax rates and the potential insolvency of governmental entities or with the inequitable and inconsistent treatment of persons employed in the public sector will also find Robert Tilove's work informative and provocative.

There are many serious problems involved in the great number and variety of these retirement systems; *Public Employee Pension Funds* provides excellent coverage of all the major topics necessary to an informed consideration of the various issues. These topics include the characteristics of existing plans,[1] comparisons with pension plans for employees in private industry, the relationship between public employee plans and Social Security, the funding policies and actuarial assumptions underlying public plans, and the investment strategies appropriate to such plans. These concepts are concretely illustrated by the author's presentation of the radically different approaches and historical development of public employee pension plans in three major states (Illinois, Massachusetts, and New York).

The reader who has little experience in this field will not find

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* Professor of Actuarial Science, Temple University. B.S., 1933, Lehigh University; M.S., 1934, University of Iowa; LL.D. (Hon.), Muhlenberg College, 1964; Lehigh University, 1970. Professor Myers served in various actuarial positions with the Social Security Administration and its predecessor agencies from 1934-70 and was its Chief Actuary from 1947-70.

1 The author made a special survey of 129 of the largest state and local retirement systems, which include about 70 percent of the total persons covered under all such plans in the United States.

Pension Funds easy going; the inherent complexity of the technical elements involved demands careful study by even the most sophisticated reader. The numerous statistics quoted and analyzed also make for slow reading, but Tilove is again right in including them; they are essential in presenting the reader with the facts necessary to consider Tilove's proposals critically.

Such difficulties are a small price to pay if *Pension Funds* results in reform in this extremely important area of our nation's fiscal and social life. Unlike other types of government expenditures, which are often made on a one-shot or short-term basis, the costs of retirement systems involve virtually permanent (and inexorably rising) expenditures. Decisions made today have cost impacts extending far into the future; unfortunately, the magnitude (and, in some cases, the direction) of such impacts often cannot be currently determined.

I am perhaps biased, in that my underlying philosophy is close to that of the author. As a result, I am in broad general agreement with Tilove's major theses: (1) The benefit levels and retirement-age provisions of many public employee plans should be seriously re-examined. (2) Many public employee plans should be better funded, although the level of funding need not necessarily always be as high as for private employee plans. (3) Social Security coverage should be applied to government workers on a compulsory basis. (4) The investment policies and procedures of many public employee pension plans need revision. (5) Many features of such plans are desirably well ahead of those of plans for private employees.[2]

Nonetheless, we have somewhat divergent views on several of the problems and their recommended solutions.

II. Discussion

A. *Benefit Levels*

Clearly, many public employee plans have become extravagant in certain respects. It is unreasonable to have benefit levels that far exceed normal net takehome pay just before retire-

2 For example, most public employee plans provide for the automatic adjustment of benefits to reflect changes in the cost of living. I believe this feature should be incorporated in private employee plans as well.

ment, to have so-called retirement benefits payable at ages well below age 62, or to pay disability pensions to persons who are able to work (and who often actually do work). The private sector does not afford such benefit coverage to its workers, and there is no reason why public employees should be treated so magnanimously. At the least, retirement and disability pensions should be paid only when the person is not working. The old argument that higher pension protection is needed to offset the lower salary level of public employees was never a reasonable one — two wrongs do not make a right — and it is probably no longer even true that salaries are lower, at least for middle and lower level workers.

On the other hand, public employee plans are seemingly less attractive than private employee plans with regard to the greater prevalence of contributory plans on the public side and, in some instances, the more stringent vesting provisions that apply to those leaving the public sector before retirement (especially since ERISA[3] compelled more liberal vesting for private plans). With regard to contribution requirements, however, the situation is not as clear-cut as it may first appear. The salaries of those under a noncontributory plan may well be lower *because* of this element; the comparison of the salary level of those in noncontributory private plans should be made on the basis of net takehome salaries (plus some allowance for the value of the refund of contributions on withdrawal from a contributory plan before vesting). Then, if there is reasonable salary comparability, the element of employee contributions can properly be ignored when analyzing relative benefit levels.[4]

B. *Funding*

Some public employee plans have the undesirable feature of being "weakly" funded or not funded at all. In other instances, a "strong" funding method is followed, but the underlying actuarial assumptions are unrealistically unconservative (i.e., actual costs are likely to be above predicted costs). There is no

3 Employee Retirement Income Security Act of 1974, Pub. L. No. 93-406, 88 Stat. 829 (codified in scattered sections of 5, 18, 26, 29, 42 U.S.C.).

4 Allowance must also be made for the use of a higher gross salary as the basis for pensions in a contributory plan — *e.g.*, a two percent benefit rate in a seven percent contributory plan is the equivalent of a 2.15 percent rate in a noncontributory plan.

excuse for this procedure, since the net result is uncertain. I agree with Tilove that large governmental entities need not follow the "strongest" funding methods, which may be properly applicable to private plans. Rather, any method that produces approximately level costs over the years (expressed as a percentage of payroll) is suitable *if the underlying actuarial assumptions are reasonable and consistent.*

C. *Social Security Coverage*

The author highlights the fact that in the vast majority of public employee plans where Social Security coverage is also present, the benefit design is faulty because of a failure to consider the two benefit protections as a whole. As a result, the combined benefits after age 62 or age 65 are usually excessively large; this in turn means overly high costs. Too often, Social Security coverage was merely added on top of an existing plan which itself provided generous benefits.

The matter of Social Security coverage of employees of governmental entities is of paramount importance. In the past, it was thought that compulsory coverage of state and local employees was not constitutional insofar as levying the employer tax is concerned. A different mood prevails today, however, and recently enacted legislation provides for compulsory coverage under Unemployment Insurance of virtually all state and local employees.[5] The author believes, as I do, that Social Security coverage could and should also be applied on a universal, compulsory basis. The absence of such coverage for governmental employees (whether federal, state, or local) permits undue manipulation of the system or, at least, undue windfalls, all of which in essence are paid for by the remainder of the country.

Pension Funds advocates bringing about compulsory coverage of state and local employees gradually, by making it applicable only to new employees. Again, I am in favor of stronger action: compulsory Social Security coverage should be made immediately applicable to all employees. Various methods of doing so are available in addition to the direct approach of

5 Unemployment Compensation Amendments of 1976, Pub. L. No. 94-566, 90 Stat. 2667 (to be codified in scattered sections of 5, 26, 29, 42 U.S.C.).

legislating coverage on the traditional employer-employee basis. For example, all such employees could be considered as self-employed persons and so covered and taxed (as are all ministers and American-citizen employees of foreign embassies in this country), unless their employer opts to pay the employer tax. Alternatively, restrictions on Social Security benefits based on other employment could be introduced (*e.g.*, a benefit would be computed on the basis of both governmental and other employment, but it would then be reduced on a pro rata basis for the non-covered governmental employment).[6]

Of course, this immediate full-coverage basis would pose serious, but not insurmountable, problems in connection with revising the existing pension plan so as to produce a reasonable, rational meshing of the two systems. To do so in some states and municipalities would require overcoming explicit state constitutional prohibitions against any deliberalization of individual provisions.[7] Other jurisdictions have imposed similar constraints via judicial decision.[8]

Compulsory coverage for all federal civilian employees[9] could more easily be accomplished, since no constitutional questions occur, though there would be technical problems in modifying the Civil Service Retirement plan. The major difficulty, however, would lie in overcoming the powerful opposition of the employee organizations, which oppose Social Security coverage largely because it would eliminate the windfalls that career employees can now obtain at the expense of the other workers in the country.

As inequitable as the situation is in those cases in which government employee groups are not covered by Social Security, it is much worse in instances in which the governmental entity takes advantage of a Social Security Act provision permitting termination of coverage after it has been in effect for at

6 For more details, *see Coverage and Termination of Coverage of Government and Nonprofit Organization Employees Under the Social Security System: Public Hearings Before the Subcomm. on Social Security of the House Comm. on Ways and Means*, 94th Cong., 2d Sess. 69 (1976) (statement of Robert J. Myers).

7 *See, e.g.*, ILL. CONST. art. 13, § 5; N.Y. CONST. art. 5, § 7.

8 *See, e.g.*, City of Jacksonville Beach v. State *ex rel.* O'Donald, 151 So. 2d 430 (Fla. 1963) (constitutional prohibition of impairment of contracts construed to prohibit reduction of benefits).

9 Civilians holding temporary appointments are now covered, as are those in the armed forces.

least seven years.[10] Some small entities have already opted out, while others (including some large ones, such as New York City) have filed notices of intent to do so.[11] It is possible to take financial advantage of the Social Security system (*i.e.*, the remainder of the populace) in this manner, although some terminations have been based on inaccurate analysis.[12] In other cases, there might have been the possibility of a gain in the aggregate (with large windfalls for some employees), but with losses or diminution of benefit protection for many employees.

The author proposes solving this problem by extending coverage compulsorily to new employees or by placing benefit restrictions on persons who are in the group withdrawn from Social Security coverage. Regarding the latter suggestion, I see unsolvable technical difficulties in attempting to take steps such as eliminating cost-of-living increases in these cases because of difficulties in identification and allocation of benefits earned under covered employment for other employers. However, the pro-rata benefit reduction procedure mentioned above[13] could be followed.

In the absence of complete compulsory coverage, I advocate more forceful measures, such as prohibiting withdrawal after a prescribed future date, so that those entities presently with agreements would either have to opt out now or else be permanently covered. This problem of withdrawal by state and local governments (and by certain non-profit organizations, who have similar options) will grow exponentially in the future, because Social Security is financed on a current-cost or pay-as-you-go basis. Accordingly, it is urgent that legislative action be initiated as soon as possible.[14]

Finally, let us turn to a few factual comments which correct or expand on points made by the author.

(1) The Social Security insured-status conditions for extended protection (p. 113) are incorrectly stated. A person with

10 42 U.S.C. § 418(g)(1) (1970).

11 R. TILOVE, PUBLIC EMPLOYEE PENSION FUNDS 111 (1976).

12 For an analysis of one such situation, *see* R. MYERS, ACTUARIAL STUDY OF TERMINATION OF SOCIAL SECURITY COVERAGE BY CITY OF SAN JOSE, CALIFORNIA (1976).

13 *See* text accompanying note 6 *supra*.

14 Congress has shown that it *can* take strong action on Social Security coverage. *See, e.g.*, Act of Oct. 19, 1976, Pub. L. No. 94-563, 90 Stat. 2655 (compulsory coverage of non-profit organizations which fail to file a waiver of Social Security tax exemptions).

less than ten years of coverage can have such protection for more than three years after withdrawal from coverage. For example, a person with nine years of coverage by age 30 would have full survivor protection for death occurring at any time before age 58.

(2) In the statement "[o]riginally there was no doubt as to the constitutionality of mandatory coverage" (p. 118), the reference should have been to "unconstitutionality" and been limited to the employer tax.

(3) The author asserts that "the Social Security system is relatively mature" (p. 138). This is by no means the case, since much higher relative beneficiary loads are anticipated after about 30 years.[15]

(4) The tax schedule shown for Social Security cash benefits as of 1974 (p. 139) is actually that in effect prior to the December 1973 amendments.[16]

(5) In the illustrative projections of funding schedules (p. 144), it would have been interesting and helpful to give the salary or payroll assumptions and then to express the costs as percentages of payroll.

(6) The assets of the New York State Teachers Retirement System were $3.7 billion, not $3.7 million (p. 168).

(7) In the discussion of the consistent relationship between actuarial assumptions as to interest rates and salary increases in final-pay pension plans (pp. 183-84), it might have been mentioned that the use of "realistic" assumptions will produce misleading results if an automatic-adjustment provision for pensions in force is not in effect. For example, in the absence of such a provision, the cost will be shown to be *lower* if wage inflation of 5 percent and an interest rate of 8 percent are assumed instead of a "pure" interest rate of 3 percent and no wage inflation.

(8) The gain shown for the illustrative bond swap (p. 208) is overstated, because a current bookkeeping loss of $266,555 is

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15 ANNUAL REPORT OF THE BOARD OF TRUSTEES OF THE FEDERAL OLD-AGE AND SURVIVORS INSURANCE AND DISABILITY INSURANCE TRUST FUNDS, H.R. DOC. NO. 94-505, 94th Cong., 2d Sess. 62-68 (1976).

16 Act of Dec. 31, 1973, Pub. L. No. 93-233, 87 Stat. 956 (codified in scattered sections of 7, 25, 26, 42 U.S.C.).

compared with an accrued gain 27 years hence. The latter figure should have been discounted back to 1971.

(9) Home mortgages to plan members at "bargain rates" (p. 216) can be most inequitable to those members not having such loans. A subsidy to the one group is being financed by the other if the net investment return on such mortgages is less than that from other investments.

(10) Tilove fails to give sufficient recognition to the great instability of the benefit structure of the Social Security system and the inevitability of its reform. The instability that now exists (*i.e.*, steadily rising *relative* benefits as compared with final pay) cannot properly be used as a valid argument for entering (or remaining in) the program. The presence of properly designed and operative automatic benefit adjustments under Social Security is, however, a good argument for compulsory coverage — and, in fact, is often improperly ignored.

III. Conclusion

Clearly, things are not well in the public employee pension field. Significant problems are slowly, but unhaltingly, coming upon us. What has caused the situation, and what can be done about it?

Part of the problem stems from the pressure exerted by public employee groups and the self-interest of legislators and top-level management in larger benefit protection for themselves. Thus, the control provided by an "adversary" system is not present nearly as much in public employee plans as it is in private ones. One solution mentioned by Tilove — namely, independent pension commissions — would help restore a proper balance but his suggestion does not go far enough. I believe that the public should demand that no pension legislation should be enacted until it has been analyzed and commented on by a commission comprised of "outside" citizens who have the benefit of cost estimates by a qualified actuary (*i.e.*, a Member of the American Academy of Actuaries who is an Enrolled Actuary under ERISA).

Another important cause of the problem is the rule prevailing in many states that no benefit provision may be deliberalized for existing employees. Quite illogically, this restric-

tion applies to individual provisions, and it is not even possible to recast the benefit structure by making some features more liberal and others less so *even though the net result is a liberalization (as well as a rationalization)*.

This situation just does not make sense! Certainly, any benefit rights accrued to date should not be reduced, but there is no reason, in equity or justice, why future accruals should not be changed.[17] Further, if there is an unjustified, illogical loophole (such as a retiree returning to service briefly to shuck off a joint-and-survivor option after the designated dependent has died), it should be possible to close it prospectively. Future salaries are not guaranteed against reduction; why should benefit provisions be different? Public awareness of this situation must lead to public indignation; reform of this structure of rules is imperative.

The problems alluded to throughout *Public Employee Pension Funds* seem to come to a head in the Social Security arena. Through a historic anomaly, most public employee groups have managed to avoid coming under Social Security. Among those that have entered the program, a number have exercised their option to withdraw, in many cases after qualifying for benefits having a value well in excess of the group's contributions. In effect, those persons who have no choice but to remain in the Social Security system end up paying for the "frosting" of Social Security benefits on top of the "cake" of already generous pension benefits provided to public employees. It is high time that the country told its civil servants that, as citizens, they must participate in the national social insurance program — and accept the attendant rights and responsibilities — along with all other workers.

17 For an example of how this was accomplished in the federal Railroad Retirement system in 1974, thereby partially alleviating its financial problems, *see* R. MYERS, SOCIAL SECURITY 464-71 (1975).

RECENT PUBLICATIONS

THE POLITICS OF EXCLUSION. By *Michael N. Danielson,* New York: Columbia University Press, 1976. Pp. 443, index. $17.50 cloth, $6.95 paper.

The Politics of Exclusion is an insightful analysis of the political dynamics of housing and zoning policies used by many suburban communities to restrict access by the minority and low-income groups residing in the central cities. Danielson explores the social and economic motives underlying exclusionary housing practices and resistance to efforts to lower suburban housing barriers, and concludes that the growing political power wielded by the suburbs is sufficient to deflect such efforts in the immediate future. A case study of New York's Urban Development Corporation and its failure to overcome suburban opposition serves to focus and underscore many of the points made in earlier parts of the book.

The role of the courts in opening the door to suburbia is examined in detail. Danielson describes the wide variety of legal grounds used to attack exclusionary practices, and provides a comprehensive survey of the courts' responses. The book also contains an excellent discussion of the problems facing an activist judiciary in an area as complex and controversial as suburban exclusion.

FINANCING STATE AND LOCAL GOVERNMENTS. By *James A. Maxwell and J. Richard Aronson,* Washington, D.C.: Brookings Institution, 1977. Pp. 290, appendix, index. $10.95 cloth, $4.95 paper.

This work provides a lucid and nontechnical analysis of state and local finance and intergovernmental fiscal relations. The authors summarize current theories of the incidence of the major state and local taxes; numerous tables are used to illustrate and highlight the points made in the text. Two chapters are devoted to intergovernmental transfers, and a third to earmarked revenues, retirement systems, and capital budgets.

The book contains an excellent discussion of nontax revenue

schemes, including public service enterprises and user charges for noncommercial activities. Maxwell and Aronson conclude that substantial additional revenues could be raised if public service enterprises followed a more rational system of pricing. The authors see the development of such nontax revenues as especially promising in view of the increasing use of sales and income taxes by local governments, a use which they regard as "fiscal perversion."

EMPLOYMENT DISCRIMINATION LAW. By *Barbara Lindemann Schlei and Paul Grossman,* Washington, D.C.: BNA Books, 1976. Pp. 1472, appendices, index. $39.50.

Employment Discrimination Law provides practicing attorneys with comprehensive analysis of the issues in the field, strategy suggestions, and a compilation of the major authorities. The book is also designed to be used as a text for a course in employment discrimination.

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