

INFORMATION TO USERS

This material was produced from a microfilm copy of the original document. While the most advanced technological means to photograph and reproduce this document have been used, the quality is heavily dependent upon the quality of the original submitted.

The following explanation of techniques is provided to help you understand markings or patterns which may appear on this reproduction.

1. The sign or "target" for pages apparently lacking from the document photographed is "Missing Page(s)". If it was possible to obtain the missing page(s) or section, they are spliced into the film along with adjacent pages. This may have necessitated cutting thru an image and duplicating adjacent pages to insure you complete continuity.
2. When an image on the film is obliterated with a large round black mark, it is an indication that the photographer suspected that the copy may have moved during exposure and thus cause a blurred image. You will find a good image of the page in the adjacent frame.
3. When a map, drawing or chart, etc., was part of the material being photographed the photographer followed a definite method in "sectioning" the material. It is customary to begin photoing at the upper left hand corner of a large sheet and to continue photoing from left to right in equal sections with a small overlap. If necessary, sectioning is continued again — beginning below the first row and continuing on until complete.
4. The majority of users indicate that the textual content is of greatest value, however, a somewhat higher quality reproduction could be made from "photographs" if essential to the understanding of the dissertation. Silver prints of "photographs" may be ordered at additional charge by writing the Order Department, giving the catalog number, title, author and specific pages you wish reproduced.
5. PLEASE NOTE: Some pages may have indistinct print. Filmed as received.

University Microfilms International

300 North Zeeb Road
Ann Arbor, Michigan 48106 USA
St. John's Road, Tyler's Green
High Wycombe, Bucks, England HP10 8HR

7816704

SHAPIRO, REGINA AXELROD
CONFLICT BETWEEN ENERGY AND URBAN
ENVIRONMENT; CONSOLIDATED EDISON VERSUS THE
CITY OF NEW YORK.

CITY UNIVERSITY OF NEW YORK, PH.D., 1978

University
Microfilms
International

300 N. ZEEB ROAD, ANN ARBOR, MI 48106

© COPYRIGHT BY

REGINA AXELROD SHAPIRO

1978

CONFLICT BETWEEN ENERGY AND URBAN ENVIRONMENT:
CONSOLIDATED EDISON VERSUS THE CITY OF NEW YORK

by

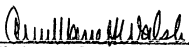
REGINA AXELROD SHAPIRO

A dissertation submitted to the Graduate
Faculty in Political Science in partial
fulfillment of the requirements for the
degree of Doctor of Philosophy, The City
University of New York.

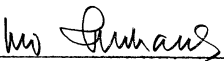
1978

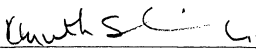
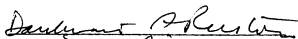
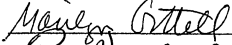
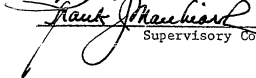
This manuscript has been read and accepted for the Graduate Faculty
in Political Science in satisfaction of the dissertation requirement
for the degree of Doctor of Philosophy.

5/17/78
date


Chairman of Examining Committee

5/17 1978
date


Executive Officer





Supervisory Committee

The City University of New York

PREFACE

I have been fortunate to be associated with the faculty of the Political Science Department, City University of New York Graduate Center. As teachers they provided me with necessary analytical tools and as friends they offered intellectual support to successfully complete this undertaking.

There are a few people to whom I owe special gratitude. The genesis of my interest in environment/energy problems began with Professor Marilyn Gittell, who enthusiastically made political science relevant and Professor Martin Landau, who provoked me to seek theoretical formulations. The enthusiasm and constructive comments of Professor Ken Sherrill, my reader, provided much needed encouragement during the later stages of writing.

However the constant inspiration and skilled guidance of Professor AnnMarie Walsh, my advisor, supported me throughout. She was unrelenting in pressure for relevance, refinement and clarity and offered more time and thought than her busy schedule allowed. A part of the experience has been to share perceptions, ideas, and discoveries and I will always cherish those hours spent with her.

I would not have completed this work without the unselfish cooperation of my parents, for whom education was a treasure above all others; or my son, Gregg, who's quest for knowledge has been contagious. I must

also acknowledge the diligent work of Leonard Kahn, who assisted in proof-reading the manuscript with advice and kind words.

TABLE OF CONTENTS

	page
PREFACE	i
LIST OF TABLES	vii
 CHAPTER I	
INTRODUCTION	1
The Energy Problem	
Problems of Electric Power Generation	3
The Environmental Problem	11
Perceptions of the Environmental Problem	
Conflict Among Competing Values	18
Description of Decision Situation	21
Con Edison Prior to 1970	28
Characteristic of Decision Situations	31
 CHAPTER II	
DECISION-MAKING	40
The Usefulness of Studying Decision-Making . . .	40
Definition of a Decision	41
The Rational-Comprehensive Model	42
Advantages of the Rational Model	
Limitations of the Rational Model	
The Incremental Model	46
Advantages of the Incremental Model	
Limitations of the Incremental Model	
Rational Incremental Decision-Making Dichotomy .	56

CHAPTER III

page

THE SETTING	70
The Environmental Protection Agency (EPA)	72
The Federal Energy Office (FEO)	78
The Army Corps of Engineers	
The New York State Department of Environmental Conservation (DEC)	82
The Public Service Commission (PSC)	85
The New York City Environmental Protection Administration (CEPA)	86
The Mayor's Office	92
Consolidated Edison (Con Edison)	93
Conclusion	97

CHAPTER IV

CASE STUDY: THE PROPOSAL TO BUILD TWO PLANTS, ASTORIA #6 AND #7	103
The Astoria Plant Proposal	104
The ICFU Report	107
Public Reaction	
EPA Opinion	
PSC Reaction	
The Mayor's Decision	117
Public Reaction to the Mayor's Decision	
The Manton Bill	122
Council Hearings	
Con Edison Proceeds to Build	126
Army Corps of Engineers' Hearings	128

	page
CHAPTER V	
CASE STUDY: THE 1973-1974 FUEL CRISIS	137
The Crisis Emerges	137
Con Edison Petitions the City and State	
The Hearings for the Variance	
The Governmental Response: CEPA	146
The PSC Certification	
The DEC Decision	
The Decisions in Contrast	149
Con Edison and a Second City Variance	152
The City Surcharge	155
Public Activities	157
The City Conforms	159
Further Variances	161
Continued Pressure	164
Application for a Variance Extension	168
The Hearings	
The Decisions	
Conclusion	179
CHAPTER VI	
PROPOSITIONS DERIVED FROM CASE STUDIES: PROPOSITIONS 1 THROUGH 7	189
Proposition 1	190
The Astoria Controversy	
The 1973 Fuel Crisis	
Summary	
Proposition 2	199
The Astoria Controversy	
The 1973 Fuel Crisis	
Proposition 3	205
The Astoria Controversy	
The 1973 Fuel Crisis	

	page
Proposition 4	209
The Astoria Controversy	
The 1973 Fuel Crisis	
Proposition 5	216
The Astoria Controversy	
The 1973 Fuel Crisis	
Summary	
Proposition 6	235
The Astoria Controversy	
The 1973 Fuel Crisis	
Proposition 7	247
The Astoria Controversy	
The 1973 Fuel Crisis	
 CHAPTER VII	
CONCLUSION	263
 BIBLIOGRAPHY	275

LIST OF TABLES

Table		Page
1.	Federal Standards for Sulfur Dioxide and Particulates	24
2.	Imports of Residual Fuel Oil by Percent Sulfur Content to New York State	181

CHAPTER I

INTRODUCTION

This study is focused upon particular styles of decision-making, the forces that encourage some styles and discourage others, and the impact of decision styles on outcomes. The subject of decision-making in political science is a broad and variegated one that has been approached in different ways. Style of decision-making or the characteristics of choice process are the central variables considered here. Other groups of variables--history, interest group configurations, leadership, distribution of political power, are viewed secondarily as they affect decision styles.

Other approaches which enhance the study of the same problems include the following: (1) study of the power configurations of various actors, comparing the relative strengths of elected officials, administrative personnel and private sector actors; (2) analysis of interest groups and constituencies, and their support of specific values; (3) analysis of non-decision-making characteristics of issues whereby the agenda is controlled by structure, history, and distribution of resource; (4) the role of the government as a regulatory force and protector of the public interest in conflict with demands from the regulated for greater protection, and bureaucratic vested interests. As regulatory agencies are increasingly concerned

with satisfying their respective constituencies, broader public interests may be ignored.

This study does not pursue these alternative approaches as a major focus, although they are not neglected in as much as they contribute to an understanding of decision-making styles.

This study examines the conflict between environmental protection and energy usage. More specifically, it studies the political management of environmental issues resulting from electric power generation within the large urban areas of metropolitan New York City. The issue which confronts government is how to balance public demand for power with the commitment to protect the environment. In this particular study, environment and energy values are represented in the political arena by public and private actors on three levels of authority - local, state and national. The context for examining this conflict is the decision-making process itself. This author contends that decision-making (on a continuum from incremental to rational-comprehensive) will affect not only the resolution of the conflict, but the manner in which it is placed on the public agenda.

Energy/environment politics are complex, involving intense inter-relationships with other public issues. The characteristics of these politics include: (1) heavy dependence on specialized knowledge; (2) direct impact on private economic interests; (3) technical need for integrative decision-making; and (4) involvement of major values which affect the survival of humankind. This study analyzes how government officials have coped with these problems by utilizing two case studies

of political decision-making in New York City in the early 1970's.

The Energy Problem

In a rapidly expanding industrial economy, consumer demands for energy to support production were met without regard for environmental consequences. Government policies that stimulated private investment in the exploitation of natural resources included land grants, oil depletion allowances, and a "hands off" attitude toward the extraction of coal and oil reserves.

In an energy-intensive society, energy consumption increases at a slightly lower rate than GNP. In the U.S. the average annual percentage growth rates for GNP and energy consumption from 1950-1965 were 3.7% and 3% respectively.¹ Higher energy consumption can be traced to greater amounts of energy required to sustain a modern industrial economy and advanced living standards.² Therefore, energy consumption will increase at a faster rate than population. Between 1960 and 1972, while annual per capita oil consumption increased 3.5%, population growth increased 2% per annum.³

Public attitudes toward energy have traditionally been based on fulfilling consumer demand requirements at whatever level they were desired. It was assumed that supplies would remain unlimited and uninterrupted. Even the early conservation movement did not deviate from this ideology. Early twentieth century government conservation policies have recently been criticized for being less concerned with

the scarcity of resources than with the exploitation of raw materials for development.⁴ "The first principle of conservation is development," wrote the conservationists, "the use of natural resources now existing on this continent for the benefit of people who live here now."⁵

Between 1965-1975, energy consumption grew more rapidly than domestic supplies of fuel and nuclear energy. Because of historic public expectation of unlimited supply, the contemporary public is unprepared to deal with problems of scarcity. Interruptions of energy supplies affect almost every household. The effect is the same if shortages are contrived by fuel producers in order to increase prices. When gasoline supplies fell in the early 1970's, every automobile owner felt the impact of gasoline shortages. (An earlier experience involving control of gasoline supplies occurred during World War II, when the Petroleum Administration for War directed the Office of Price Administration to ration gasoline, going so far as to ban all non-essential driving in 1943.)⁶ The Arab embargo of supplies, especially to the northeastern United States during the winter of 1973-74, resulted in inflated prices. As a result, the public became more aware of its dependence on energy supplies. Interruption of supplies had four major consequences: (1) it led to stepped up research and development of alternate energy supplies; (2) it gave oil and coal producers the opportunity to obtain approval for projects previously rejected on environmental grounds, e.g., the Alaska Pipeline; (3) it encouraged demands for the deregulation of natural gas, in order to give incentives

to suppliers to increase production by letting the price rise as high as the market would allow; and (4) it resulted in the relaxation of environmental restrictions by allowing the use of high polluting fuels for electric generating plants and the proliferation of nuclear power plants. In summary, interruption of energy supplies shifted political balance back in favor of fuel producers, and limited resources, rather than unlimited, became the argument for maximum exploitation. The New York Times reported that commercial interests were having a field day: "...They are trying to undo the progress of the past five years in the name of an energy crisis that is being successfully misinterpreted and misserved by everyone involved."⁷

It has been suggested by some authors that the Arab embargo of oil was not the precipitating factor in the increased price for oil or its scarcity.⁸ Between 1970 and 1973, United States demand for foreign oil increased,⁹ due in part to a decrease in domestic output while United States energy consumption needs were increasing. While oil came to be the preferred fuel over coal by electric utilities for environmental reasons and demands for gasoline increased, the fact that United States' oil companies were spending more capital in foreign rather than domestic investment tightened domestic supplies.

The major oil companies were concerned that if the foreign producing countries demanded greater participation in oil company decision-making, prices might be affected. As they reduced sales of crude oil and tightened the market, forcing third party buyers into competition, these

profits were not shared by the host countries. "As crude oil costs rose, the oil companies raised prices.....to an extent greater than would have been justified by the rise in crude costs alone."¹⁰

By September 1973, the oil producing nations demanded a share of the profits that the oil companies were getting on the market. (Between January 1, 1973 and October 16, 1973 the market price for oil increased from \$2.27 to \$3.54 per barrel.)¹¹ Prices were therefore increasing well before the Arab embargo and supplies were curtailed.

The embargo on Middle Eastern oil was not successful as oil continued to flow from non-embargo countries, i.e. Iran and Nigeria; unreported oil stored in tankers continued to their destination; and increased Arab imports of oil in the early part of 1973 eased the supply situation.

Problems of Electric Power Generation

The production of electricity involves the transfer of one form of energy into another. In steam generating units, the combustion of oil or coal releases heat. This heat changes water into steam, which expands through a turbine, producing electricity. The steam is then condensed to water and either returned to the boiler or discarded. In fossil fuel plants, 60-70% of the heat produced by the combustion process is returned to the environment as waste heat, since such energy cannot be stored. Thus, because of the inefficiency of the combustion process, most heat produced by fossil fuel electric generating plants

produces unintended side-effects by artificially warming both the atmosphere and adjacent bodies of water. Moreover, between 8% and 9% of electricity generated may be lost during transmission.

Electric utility plants are a major user of fossil fuels. In 1968, 50% of American utilities used coal and 7% used oil to fire their generators.¹² Electric power generation also used up $\frac{1}{2}$ of the United States coal production in 1967¹³ and more than $\frac{1}{4}$ of the total annual residual oil supply in 1968.¹⁴ The production of electricity has increased over the last 40 years, while its price - relative to other goods and services - has declined. From 1928 to 1968, electric rates declined from an average of 2.71 cents per kilowatt (KW) to 1.55 cents per KW, while the Consumer Price index doubled. During this period of time, per capita electric consumption increased eightfold while the total revenues received by utilities increased ninefold.¹⁵ The public assumed that continued growth of electric utilities would result in a continued drop in unit cost for consumers.¹⁶

Dependence on electric power grew as industry and utilities together undertook promotional activities. Electrical appliances, high-rise construction with total temperature regulation, and all-electric private homes became common place. Advertising campaigns stimulated public desire for increased electric power.¹⁷ To meet this growing demand, utilities constructed more and larger facilities, and to fully utilize these new facilities, promotional activities were intensified to ensure greater demand. Again, more demand produced still newer facilities,

and so the cycle continued.

The Federal Power Commission (FPC) forecasted in 1969 that electric power requirements (i.e., demands) during the period 1970-1990 would increase fourfold¹⁸ in the Northeast. This is probably a conservative estimate, since the projection for electric power demand made in 1952 for 1,400 billion KW hours in 1975 were surpassed as early as 1968.¹⁹ It was projected in 1969 that the historical annual 7% growth rate for electric consumption, doubling energy volume in under a decade, would continue until the 1990's.²⁰ To meet this demand utilities would have to build 900 million KW of new capacity by 1990, as well as find 225 sites for facilities of 500 MW or larger.²¹

Utilities explain that it is their "mission" to meet demand: "...As long as general growth is sought or permitted, the growth in the use of electric power is both necessary and constructive."²² Indeed, Consolidated Edison of New York (Con Ed), as a public utility, is obligated by New York State law to supply electric power to its 8,650,000 customers.

Utilities contend that new energy demands should be met because reliable availability of electric power has a positive effect on living standards. Cheap electricity provides lower income groups with an opportunity to enjoy appliances and other amenities that make life more comfortable. The utilities also argue that electric power is a clean form of energy that actually produces environmental benefits; mass transit facilities powered by electricity are environmentally preferable to expanded automobile travel. Dependence upon electric power for numerous

essential services (i.e., subways, ventilation, and lighting) has been a crucial component in the growth of our cities. One need only to recall the blackout of 1965 in New York City to understand just how closely our lives are tied to electric power. Utilities also maintain that building new facilities has a secondary effect on living standards by providing construction and maintenance employment (a factor that usually engenders labor support for utility projects).

In order to fulfill the mandate of providing electricity, utilities must contend with external constraints. Utilities are faced with high interest rates on borrowing; high costs due to requirements to conform to air and water quality regulations; increases in fuel prices; frequent equipment failure and construction delays; and prolonged governmental approval procedures. Higher costs are particularly burdensome since 50% of a utilities' costs are fixed and unrelated to output. Most of a utility's assets are fixed in plant and equipment. The economics of scale achieved in the 1960's were offset by inflation and technological limits. Recently, the costs incurred by utilities have increased faster than the national inflation rate.

A major source of capital for utilities is bonds. The interest charged is related to market conditions and the bond rating from major bond rating agencies. When bond ratings decline, the increased change in interest rate can be substantial. Moreover, in New York State, a BB rating can make those bonds ineligible as a legal investment for financial institutions. (Between February and June 1974, 14 utilities had their ratings downgraded which resulted in increased debt cost and

affected the marketability of the bonds.)²³

Increased costs due to inflation and debt charges affects construction. In 1964, new generating facilities cost between \$100 and \$150 per KW. In 1974 the cost was estimated at \$500.

Moreover, since rate increases have not kept pace with higher costs, earnings have been eroded and construction of new facilities have been postponed. Fifty-two companies reported their 1974-78 construction budgets were reduced by \$8.3 billion. This represented about 65 plants.²⁴

Efforts by utilities to urge their customers to conserve electricity have hurt utilities. Since major utility costs are fixed, declining revenues due to successful conservation efforts have left utilities with increased financial burdens.

Utilities were hit by higher prices for residual oil even before the Arab embargo of October 1973, while the prices for other refined products increased at a lower rate. i.e. while gasoline prices increased 95.4%, residual oil increased 224.2% from 1972 to 1974.²⁵ One explanation is that the easier it is to pass costs on to customers, the higher the price will be. Private utilities may pass higher fuel costs on by increasing rates or with fuel riders added to bills.

Utilities have resisted air and water quality regulations because of their financial burdens. "There are those zealous ecologists who would cut down the demand rather than boost the supply, and if that makes the lights go out eventually, well at least we will have our beautiful unspoiled environment." ²⁶ Regulations which restrict the use of "dirty"

high-sulfur oil, which is cheaper than low-sulfur oil, do add to the consumer's bill. Recent court challenges to the construction of new facilities because of their environmental impact have caused costly delays. According to a 1970 FPC National Power Survey, one fourth of new plants were behind construction schedule, and 39% of these delays were due to environmental and regulatory problems.²⁷ Such setbacks tend to increase the total cost of construction in a period of inflation. Locating new facilities outside metropolitan areas also increases construction costs because of the greater expense of transmission and distribution. According to Joseph Swidler, a former TVA advisor, FPC Chairman, and New York State Public Service Commission (PSC) Chairman, "Environmental requirements can contribute substantially to the cost of living and intensify inflationary pressures."²⁸

The Environmental Problem

Certain features of environmental issues differentiate them from other policy areas. The environmental perspective is long range. Not only do present actions produce effects which will be felt far into the future, but solutions to environmental problems require an extended time frame for observable results.

Discrete actions in environmental policy have a cumulative effect. Although individual decisions may appear rational, ecologist Garrett Hardin points out that, when numerous decisions are considered collectively, they accrue unanticipated consequences.²⁹ For example, Austin Heller and Edward Ferrand, experts on New York City air pollution, point

out that pollutants interacting with each other may have a more damaging effect than if present independently in the atmosphere.³⁰ Similarly, project-by-project evaluations of local actions are often incapable of accounting for their aggregate effect on the environment.

Secondary or unintended consequences of discrete actions are often due to the exclusion of social costs from the market system. For instance, a decision to dump wastes from a cement plant into a river as part of an economically efficient production process may not only pollute the river temporarily, but affect marine and plant life for decades to come. The social costs are simply not reflected in the producer's price and therefore the decision is socially inefficient.³¹ Again, an individual cannot purchase an amount of clean air. Air may be a free good, but clean air is not.³² The consequence of both the common ownership of resources and the absence of pricing mechanisms to safeguard them has been the overuse and pollution of these resources.³³

Another characteristic of environmental issues is their interdependency. Failure to perceive interactive processes in the environment, or disregard of their interrelated totality, is due in part to lack of knowledge about these processes and to the segmental nature with which policy problems are customarily handled. Environmental policies have effects which spill over into other policy areas such as GNP, banking, and real estate. The resulting problems are complex because they usually result from a number of separate, discrete decisions, and therefore have multiple origins.

Further evaluating potential uses of resources held in common becomes

complicated because the optimal level for each use depends on the individual's own evaluation. "To one it is estuaries to nourish ducks for hunters to shoot, to another it is factory land." Comparison of these goods with each other is impossible because they are incommensurable, and incommensurables cannot be weighted in common units of measurement.³⁴

A final feature of environmental issues that differentiate them from other policy areas is that, since environmental policy is so diffuse and far reaching, it is inadequately represented by organized constituencies. The bargaining among competitive interest groups and politicians - bargaining that is characteristic of the American political system - discounts environmental goals. The environmental constituency is broadly based and heterogeneous, becoming effective only in periodic "revivals" that generate acute but sporadic public interest. Political leaders have difficulty calculating how to exchange support of environmental policies for support at the polls. Moreover, politicians tend to be wary of tackling environmental issues because such challenges to "the system" are too complex for them to handle by traditional methods.³⁵ Finally, environmental groups, hard pressed for financial backing, tend to be weak lobbies. Referring to such public interest groups, Grant McConnell notes, "Their absence from or, at best, their ineffective presence upon the political scene leaves a largely open field for the success of those more concrete and narrow interests whose mutual opposition is not great."³⁶

Perceptions of the Environmental Problem

Proposals for coping with environmental problems reflect attitudes

about causes of the environmental condition. Some perceive environmental problems as incidental to the normal functioning of the political system and subject to corrective mechanisms (i.e., clean-up campaigns, construction of sewage systems, or conservation of resources). Adherents of this approach do not essentially challenge societal patterns. Gerald Garvey, for example, suggests technological modifications to improve the environment which include recycling, the use of nonpolluting fuels, and efficient energy conservation processes.³⁷

Other writers stress inadequate public planning and administrative action as fundamental to persistent environmental problems. Institutional response to environmental conditions through new laws and regulations has had less impact than anticipated because of weak planning and weak agencies. This perspective implies a need for greater governmental effort to balance interests more fairly. Cynthia Enloe suggests that the impetus for change be sought through more effective institutional mechanisms in the administration of environmental regulations.³⁸ Yet the effectiveness of environmental agencies is a product of the subsystem of clientele and outside support, agency visibility, and level of resources, as well as the legitimacy of the agency in the total bureaucratic framework. The problem of enforcing environmental agency regulations is also a function of agency resources. Esther Rodetti Schacter notes that competition among agencies for new funds inhibit an agency from fulfilling program goals.³⁹ The lack of commitment of power and resources can be attributed partially to weak public support.⁴⁰ To overcome this problem, McClellan suggests that new regional agencies be established with the

support from public groups to counter strong industry pressures on local governments. Such agencies should have broad powers to impose fines and to issue subpoenas and permits.⁴¹

Environmental problems may also be analyzed in terms of market economics. Regulation through taxation and monetary incentives is considered adequate by some writers as a means to make polluters responsible for the environmental costs they generate.⁴²

Critics of those relying on market incentives, however, argue that such policies may drive small companies out of business while larger enterprises, which can afford the fines will gladly "pay to pollute." Moreover, since air is not an unlimited good, as James C. Hite⁴³ reasons, the price of air in a theoretical market model would reflect the cost of pollution. However, since an individual cannot bargain for clean air, new rules of allocation should be created so that the price equitably reflects competition among users.

An additional objection to the market approach involves supply and demand curves for environmental goods; they simply cannot be precise because of the subjective nature of environmental quality. Nevertheless, attempts have been made to find an optimal level of environmental quality using a cost-benefit approach - that is, by calculating the exchange of a unit of benefit for a unit of cost until the cost exceeds the benefit. Using the principle of marginalism, borrowed from classical economics, stress is placed on maximizing benefit until additional expansion begins to cost more than it is worth.⁴⁴ However, problems arise when one attempts to quantify such costs and benefits. Barry Commoner argues

that the cost of a particular economic process includes the environmental impact, which is an approximate measure of the degradation of environmental quality.⁴⁵ But, a method of calculating the worth of excess human deaths, loss of future earnings due to illness, and the inconvenience of chronic respiratory disease or aesthetic and psychic loss has yet to be developed. Such social costs or externalities are often omitted in cost-benefit analysis, and environmental impact statements even though they are inevitable by-products of an economic theory that treats the environment as a free good. Larry Ruff suggests that sometimes an economically inefficient policy may be desirable on distributional grounds despite its cost.⁴⁶ Unfortunately, if policy generates a net gain on a cost-benefit scale, that analysis does not provide for specifying who sustains the gains or losses - or what level of emotional intensity the losers might experience.⁴⁷

Comprehensive approach to environmental problems must deal with all these factors, perceiving the problems as systemic. Since their origin is built into technological processes and the economic system itself, solving them can only result from a shift in the priorities and values of the society. Not only are specific measures to be taken by government, but a reformulation of the government's role in environmental affairs is considered part of the long range objectives of the systemic approach.

Adherents of a comprehensive approach tend to stress different aspects of the systemic solution. Michael Kraft suggests that the level of change is related to the system's acceptance of change and reception to innovativeness.⁴⁸ The system must consistently encourage criticism

and participation if new goals are to be sought. Lester Milbraith emphasizes that social change will only "occur if there are basic changes in values in our laws, and in the structure or rewards in society."⁴⁹ Government alone, he maintains, has the resources to deal with planned change. It is further argued that the governmental role include public participation in value formation based on human need⁵⁰ by creating a political structure to consider value judgments in which the issue of adequate environmental quality can be reformulated. This would provide an institutional means for effecting environmental choices. The mere creation of a new agency would not automatically bring about the change without a corresponding change in the perception of the roots of environmental problems. "It overlooks the essential qualitative distinctions between a particular interest that is part of the productive dimension of society, and a problem-area of a communal nature that concerns the relationship between the industrial system itself and the overall environment of life."⁵¹ Such analysis focuses attention on traditional concepts of economic growth, profit, and the notion of progress.

Lehtey and Edmunds suggest a new definition of progress in terms of humanity's relation to the environment. Rampant economic growth, unrestrained technology and failure to appreciate the long-range consequences of modern industrial production are the real sources of system inequities.⁵² Emphasizing these dysfunctions, Robert Paul Wolff contends that a system of private capitalism, no matter how benevolent and reform oriented, may just be unable to effect any change. Society

may require a transformation, "...into objects of decision of important matters which are now the consequence of uncoordinated acts, rather than merely an alteration in the way in which present power is employed." ⁵³

The analysis of the environmental situation on this more comprehensive level has also been stressed by Lynton Caldwell. ⁵⁴ He suggests an interdisciplinary approach utilizing information from related fields to increase the breadth and understanding of environmental problems. This approach recognizes the environment as a totality directing attention to the complexity and inter-relatedness of interactive processes. Recognizing that environmental problems usually involve a conflict among public values, it is argued that the acquisition of knowledge will make the choices clearer.

Conflict Among Competing Values

The process of generating electricity has an environmental impact. Due to increased public awareness of the effects of pollution, the government has been called upon to take an active role in resolving the conflict of providing adequate electric power while minimizing the environmental impact. Government has also been forced into the arena when the fossil fuels used to generate electricity have come into short supply.

Ironically, the very price competitiveness of fuel-burning utilities - most welcome to consumers of other industrial goods - has been the concern of environmental interest groups. When electric rates remain stable or decline because of price competitiveness, the demand for electricity increases. The result would be construction of new fossil fuel plants as well as rapid increase in the number of nuclear plants. Not only would

air and water pollution increase, but the unknown hazards of radiation from nuclear plants present an even more ominous threat. The argument against slowing the growth of utilities, however, is based upon its effect on the consumption of goods and services, increasing unemployment. "The conflicts between the consumption patterns that we all want and the environmental ill effects that we wish to avoid is sharper for energy than for perhaps any other aspect of natural resource use...everyone wants to use as much electricity as he needs...yet few love a power plant or transmission line."⁵⁵

The nature of the conflicts is murky to the public. Although the passage of the 1970 Clean Air Act seemed a victory for environmentalists, President Nixon undermined its effectiveness when he proposed measures which would take the corporate costs of pollution control into consideration in setting standards, would eliminate the nondeterioration section of the Act which protected nonpolluted areas, and would allow suspension of environmental regulations such as the pending automobile emission standards. Nixon also advocated a speed-up of nuclear power plant licensing in spite of growing concern about safety hazards.⁵⁶ The New York Times warned that "under the pious guise or disguise of energy conservation, air and water pollution standards are being dangerously revised."⁵⁷ The Environmental Protection Agency (EPA) emerged in the curious position of being undermined by the very President who had created it. At bay from critics contending that the energy crisis was partially the result of environmentalists' efforts, the EPA retorted, "The current energy

crisis is now being cited by those who fear the future as proof that concern for the environment has already begun to ruin us. They imply that we must abandon all this environmental nonsense and use fuel anyway we please."⁵⁸ Industry, business, real estate developers, and other special interest lobbies can in this way isolate the environmentalists from broader public support. As the battle for public opinion gained momentum, the general public became increasingly bewildered. No clear concept of public interest emerges from opinion surveys.

The conflict between energy and environmental values may clearly be conceived as a conflict between very long-term public values and shorter term, more specific objectives. The clash emerges when diffuse long-term environmental concerns interfere with the satisfaction of immediate and pressing energy needs. Decision-makers tend to maximize the short-run because they are subject to daily input. (Short-term goals may include meeting employment, expansion, land developers' requests, and consumers' electric power needs.) "Responding to their most immediate and proximate stimuli, decision-makers behave so as to achieve and retain job security, standing and advancement, and to keep themselves and their organization out of political, economic, or other sorts of trouble....there is seldom any payoff for deciding in favor of, and committing resources to, such long-run and comprehensive goals as joining in a group effort to rid an entire metropolitan area of air and water pollution."⁵⁹ Where there is a conflict of values, it is pragmatic to sacrifice environmental values to ameliorate a crisis situation. Energy planning may require as much as a decade from proposal to production. Environmental impacts exceed a

generation. Both, of course, involve time dimensions that far exceed the platform - election - record making cycle of politicians. But short-term power crises (due to shortages or dramatic price changes, threatened or actual) foreshorten power demands to a scale at which politicians facing elections must respond. The immediacy of a crisis (i.e., insufficient electric power due to low system capacity during peak periods and/or fuel supplies) attracts immediate attention, forcing a choice between two values with apparently incomparable time discounts. The lack of definition of the public interest - and how it can best be served - perpetuates the conflict by forcing decision-makers to try anew to balance these same interests every time a new crisis occurs, to reinvent the wheel. The characteristics of the conflict between energy and environment, therefore, should help test the hypothesis of this study; that the structure and styles of decision-making influence outcome; and that shifts in the structure and styles of decision-making are necessary conditions for changing the predominant patterns of policy that emerge from political processes.

Description of Decision Situation

This study focuses on the conflict in New York City between potential health hazards and power shortages. Two cases were investigated. The first concerns Con Edison's action to obtain city approval for the construction of two new generating facilities. The second involves Con Edison's attempt to obtain a variance to the city's Air Code in order to allow the burning of the high-sulfur fuel.

The time span of the field work on the cases from 1970 to 1974, provides enough perspective to observe continuity and development of patterns of decisional behavior among the actors. It was also a period when environmental issues gained prominence in the public arena and public criticism was being directed increasingly towards Con Edison.

The data collected from interviews of approximately 100 government, private sector and media respondents were compared with each other and with documentary and media sources in order to assess reliability and accuracy. Internal documents and correspondence files of Con Edison, city, state and federal agencies were studied. Administrative codes, statutes and rulings were also examined. These primary sources were supplemented with secondary source material including books, periodicals, newspapers, journals and media.

The impact of power generation upon air quality can be profound because of sulfur dioxide and particulate emissions. In 1972, power plants in the United States emitted over 17 million tons of sulfur dioxide, or

nearly 60% of all sulfur dioxides emitted into the atmosphere.⁶⁰ In New York City, the figure was less but still dramatic. In 1974, Con Edison's contribution to total sulfur dioxide emissions was 42.1%.⁶¹

It was the hazards of increased air pollution from Con Edison actions which brought opposition from the environmentalists, projecting the issue into public purview. One of the major pollutants of sulfur fuel combustion is sulfur dioxide. The combination of sulfur dioxide and particulates (which are produced during the combustion process because of either incomplete combustion or vaporized materials which later condense, have been found to cause demonstratable health effects; the young, old, and chronically ill are especially vulnerable during periods of high sulfur and particulate exposure.) Particulates which enter the respiratory tract in the presence of sulfur dioxide are especially harmful because the subsequent production of sulfuric acid could result in tissue damage. Even short-term exposures have been linked to cancer, bronchitis, emphysema, tuberculosis, and heart disease. One study estimates that nationally 110,000 deaths per year can be attributed to air pollution.⁶² In New York City, there are an estimated 1,000-2,000 such deaths per year.⁶³ Significantly, the death rate for cancer of the respiratory tract is twice as high in urban areas where power plants are concentrated, than it is in

rural areas.⁶⁴ In New York City from 1963-1968, 12% of the total daily mortality was related to air pollution.⁶⁵ The years 1969-1972 saw only a slight reduction from previous years.

Power generation contributes between 35-37% of total city emissions of sulfur dioxide.⁶⁶ The impact of this figure is somewhat diluted because of dispersion of the pollutants from Con Edison's high elevated smoke-stacks. In 1970, most areas of New York City surpassed minimum federal and state standards for sulfur dioxide and particulate emissions by as much as three times.

TABLE 1

	<u>Sulfur Dioxide City-wide</u>					Federal Standards
	1969	1970	1971	1972	1973	
Arithmetic Mean	.80	.77	.40	.24	.26	.3 ppm* annual average
Times Exceeded .14	- ^a	-	23	4	13	.14 ppm 24 hr. concentration to be exceeded once per year
Highest Daily Average	.49	.31	.22	.18	.36	
*parts per million						
	<u>Particulates City-wide</u>					Federal Standards
	1969	1970	1971	1972	1973	
Geometric Average	98	104	105	82	82	75 ug/m ³ **
Daily Peak	608	581	579	256	514	260 ug/m ³
**micrograms per cubic meter						

^aNot available.

Source: Environmental Protection Administration

Certain areas of the city, especially around the East River, are more severely affected by Con Edison emissions than are other areas where standards are being met. There are areas of the city where annual average standards are being met, mainly due to the mandatory switch to low-sulfur fuel in power generation and space heating. The city was naturally anxious to preserve these gains; this entailed both the maintenance of environmental restrictions and prevention of the development of new stationary sources of pollution.

Con Edison's case for building additional sources of power and using higher-polluting fuels was based on the threat of power shortages. In 1970, although Con Edison claimed that new installed capacity was needed to meet consumer electric demand, the city's newly formed environmental agency (CEPA) argued that (1) Con Edison had not explored alternatives to meet its projected power shortage of 1974, and that (2) the impact on air quality would be so severe as to result in a health hazard. CEPA did not challenge Con Edison's estimate of future peak load needs, but whether there were other ways of meeting those needs.

The City Environmental Protection Administration (CEPA) claimed that Con Edison overestimated its reserve requirements in order to justify acquiring greater installed capacity. The FPC requirement was between 20-25%; according to CEPA, without new construction in Astoria there would still be a reserve capacity of 27.7%. This figure omitted outside purchases of electric power which would have augmented reserve capacity. From 1970-1973, Con Edison had purchased power from outside sources, and there was no reason to believe this practice would change.

Con Edison also projected a 36.2% reserve capacity for 1974, justifying that figure by emphasizing possible delay of other plants under construction. However, Con Edison included an 800 MW Astoria unit in its figures of planned reserves for 1974 in order to inflate the reserve figure. CEPA noted, "...The Company cannot justify the Astoria expansion by claiming that it has inadequate reserves in 1974 owing to possible construction delays and at the same time include Astoria as one of the machines which might be delayed. 67

CEPA concluded that the Astoria project, although referred to by Con Edison as a base-load plant (i.e., designed to run efficiently at high loads) was really being sought by Con Edison to meet its inflated peaking demands. Peak projections are used to justify capacity requirements and are an important part of appeals for rate increases before the Public Service Commission, (PSC).

CEPA also took issue with Con Edison's estimate of the impact upon air quality by the construction of a new plant. While Con Edison claimed that environmental deterioration caused by the Astoria plant would be negligible, CEPA estimated that it would contribute .15 ppm to the 24-hour average, which was already well above standards. 68 CEPA estimated that if Astoria used a .37% sulfur fuel, it would emit 15,000 tons per year of sulfur oxides - 10% of total sulfur oxide emissions for the entire city in 1975. This represented between .02-.03 ppm of the total annual average. When combined with other sources, levels would reach .04-.06 ppm (annual average), ruling out any possibility of meeting the federal primary standards of .03 ppm. 69

Con Edison's proposal for the expansion of one of its generating plants might have been handled more privately had the environment not been a serious concern and had not the newly formed CEPA been eager to establish itself as a legitimate power in the city. Con Edison provided city environmentalists and politicians an opportunity to do battle. In 1970, Mayor John Lindsay, anticipated a presidential campaign and saw no immediate harm in letting CEPA pursue its goal. Likewise, in 1973 his "lame duck" administration did not have to worry about political repercussions if the city refused to allow Con Edison to burn high-polluting fuel.

Con Edison had traditionally resisted the imposition of city regulations regarding low-sulfur fuel. 60% of Con Edison's oil originates from the Middle East or North Africa. (The sulfur content of oil from other sources is usually too high to meet regulations, i.e., Venezuela.) In response to the fuel shortage of 1973, Con Edison again expressed the fear that, if their supply of low-sulfur fuel were not replenished, there could be a power shortage. Again, the city and Con Edison disagreed over severity of the fuel shortage, the availability of low-sulfur fuel from suppliers, and the effect of using higher-sulfur fuel upon air quality. CEPA's primary concern became the protection of gains made in air quality during preceeding years. "The amount of sulfur oxides emitted is directly proportional to the amount of fuel burned and the sulfur content of the fuel."⁷⁰ CEPA policy crystallized: limit the amount of high-sulfur fuels burned in the city. Both issues initiated by Con Edison were placed on the public agenda in what appeared to be a crisis situation. The

issues clearly brought into conflict the short-run goal of meeting electric power needs and the long-term goal of maintaining and improving air quality standards. Compounding the difficulties normally incurred in crisis decision-making, the very data provided by Con Edison and by CEPA differed - when it existed at all.

Con Edison Prior to 1970

New York City is completely dependent upon Con Edison to provide electric power to an area populated by 9 million inhabitants. Its 2.8 million customers are mainly residential and commercial users with a lower than national average per capita consumption of electricity⁷¹ (due to a low level demand in the industrial sector and preponderance of apartment dwellings.) Con Edison has the largest amount of assets of any privately owned utility in the United States, with approximately 250,000 stockholders.

Nevertheless, Con Edison suffers from a rather low public image. Con Edison was the object of hostility by the Queens community in 1962 when it attempted to obtain a license from the Atomic Energy Commission (AEC) for a nuclear powered plant at Ravenswood, Queens. The alleged lack of safety precautions for a densely populated area generated such intense opposition that the plan was abandoned.

Con Edison is caught between balancing the interests of the stockholder, customer and the community. The rates it charged prior to 1970 were the highest in the nation; Con Edison attributed this to incurred high fuel costs, labor and interest charges, a cash-flow problem, and a high tax

bill. (Until September 1973, the greater electricity use, the less per kilowatt was charged.⁷²)

Con Edison has additional problems. (1) Maintenance costs on its transmission system are high because most of its cables are underground. (2) Con Edison estimates that its major cost items are taxes and fuel. In 1975, fuel accounted for 33¢ and taxes for 24¢ of every dollar billed to the customer. (3) Con Edison costs for fuel and purchased power have increased appreciably from \$397.6 million in 1972 to \$969.9 million in 1976. (The larger portion of this increase was due to the rise in oil prices.) (4) Accounts receivables owed to Con Edison amounted to \$302,203,000 in 1975 down from \$320,979,000 in 1974. This still was a substantial amount of outstanding funds. (5) Con Edison is required by the Public Service Commission to keep a 45 day reserve for residual oil, which is expensive, (6) In the past, Con Edison had overestimated its reserve capacity to compensate for equipment failure. Old equipment had been given unrealistically high capacity ratings and the result was summer brown-outs due to breakdowns. The severe 1965 blackout, coupled with generally poor servicing, damaged Con Edison's reputation and strengthened its tendency to maximize generation capacity (rather than to minimize power loss and encourage conservation, for example). The utility became the object of criticism by the media, the press, and political leaders.

Con Edison's financial problems surfaced when it failed to pay a quarterly dividend to its stockholders for the first time in the company's history on April 1974. Con Edison had traditionally provided reliable dividends for its investors. However, in the early 1970's severe financial

problems shook this confidence. In 1972, the Public Service Commission forced Con Edison to switch from prefinancing to arrearage financing. This meant that Con Edison now had to finance construction with bank loans and then sell bonds to retire the bank debt rather than selling the bonds first to finance construction. Con Edison was able only to float two of the three bond issues it had planned for 1973. Con Edison's immediate problem was to obtain financing to cover the year's operations. Although discussions about the sale of two plants to the Power Authority of the State of New York were underway, passage of the necessary legislation was not definite because some legislators doubted that Con Edison's interpretation of its financial situation was accurate, while others were demanding that the monies received by the sale be used to ease customer bills. The Company believed that a new stock offering would be unsuccessful leaving them the alternative of cancelling the first quarterly dividend on April 23, 1974. This saved Con Edison \$27.7 million which the company claimed would ease the cash situation (due to lower earnings, failure to recover costs due to fuel price increases and higher taxes.)

The effect in the financial world was immediate. Con Edison's bond rating by Standard and Poor's fell to BB. Other utilities' stocks were downgraded. However, the bill authorizing the sale of two Con Edison plants passed the state legislature On May 16, 1974. It provided that any loss in revenue due to a transfer in customers to the Power Authority of the State of New York (PASNY) would be charged to Con Edison's remaining customers.

Con Edison recovered sufficiently to pay its second quarterly dividend. The company claimed that conditions had improved as a result of increased

sales, the stabilization of oil prices and a temporary rate increase. Since then, dividends have remained stable increasing from \$.85 in 1974, \$1.20 in 1975 to \$1.60 in 1976.

Although there have been changes in management and public relations campaigns have been mounted, the company's image has not substantially improved. Con Edison's increasing difficulties in its relations with the city, its investors, and its customers provided the external situation in the two case studies under consideration.

Characteristics of the Decision Situations

Both decision situations considered here share common characteristics which influenced strategy, procedure and outcome. These characteristics can be summarized as follows.

(1) The lack of information available to decision-makers limits resources used to formulate the decision. In both cases, Con Edison retained a monopoly of information with respect to electric power capacity and fuel supply. Other information, including the availability of fuel and the effects of conservation techniques, were unavailable to government participants at the time a decision was required.

(2) The time frame of the decision situation had a specific importance. One decision involved construction of a generating plant, and pressure was felt to provide sufficient lead time for the plant to be completed before a projected shortage developed. The second decision, whether to allow higher-polluting fuel, required time lag to ensure that supplies of conforming fuel would be available. Lack of options because of the

immediacy of the situation was a significant factor in both decisional processes.

(3) Each decision situation required action and involvement by numerous decision-makers from various agencies within different government hierarchies. The environmental agencies, younger and less experienced, faced older established power regulatory bureaucracies as well as Con Edison in a clash of style as well as of substantive issue. The new environmental agencies found themselves spurring the older power regulatory agencies on to a more aggressive stance with respect to Con Edison.

While Con Edison has a monopoly function for providing electricity, the authority of governmental agencies which have regulatory functions is fragmented. National multiple government responsibility includes the Army Corps of Engineers, Environmental Protection Agency, Federal Power Commission, Atomic Energy Commission. New facilities must be approved by the Public Service Commission, New York Board on Siting, Electric Generation and the Environment, Department of Environmental Conservation on the state level and numerous local agencies, i.e., building and boiler installation permits, as well. These cross-cutting responsibilities make coordination of electric policy difficult for the government and cause lengthy delays for Con Edison. Innumerable decision-making conflicts among these agencies results in procedural delays and difficulties in coordination of policy. Furthermore this dispersion of power as opposed to the concentration of corporate power may tend to strengthen the goals of the latter to the detriment of the general community in the political arena.

(4) All participants tried to project an image that responsible action was being taken, and used the media and press to obtain public sympathy and support. On the governmental side, symbolic action took precedence over concrete action. Since decisions had to be made quickly, statements, agreements, and promises were made that primarily constituted good public relations, not necessarily good decision-making.

Both situations were the result of initiatives taken by Con Edison to which the city had to respond. In both situations, influential power holders had a great opportunity to exercise their will in matters of governmental regulation without an opportunity for mutual checking power to occur. During the period between the two crisis situations, the major issues were ignored. Con Edison was no more accountable to the city for its operations and actions in 1974 than it had been in 1970.

CHAPTER I

FOOTNOTES

¹Joel Darmstadter, Energy in the World Economy (Baltimore: J. Hopkins, 1971) p. 37.

²Ibid., p. 32.

³Joel Darmstadter and Hans Landsberg, "The Economic Background" in Raymond Vernon (Editor), The Oil Crisis, (New York: W.W. Norton, 1976), p. 16.

⁴Samuel P. Hays, "The Mythology of Conservation," in Henry Jarret (Editor) Perspectives on Conservation, (Baltimore: Johns Hopkins Press, 1958), p. 40.

⁵Gifford Pinchot, "Conservation and Progressive Ideology," Donald Worster (Editor), American Environmentalism, 1860-1915, (New York: John Wiley, 1973), p. 83.

⁶Harvey Mansfield, A Short Story of OPA, Office of Temporary Controls, GPO, Washington, 1947, p. 177.

⁷New York Times, April 7, 1974, Editorial.

⁸John W. Blair, The Control of Oil (New York: Praeger, 1976), and Edith Penrose, "The Development of Crisis", in Raymond Vernon (Editor), The Oil Crisis (New York: W.W. Norton, 1976), p.39-57.

⁹Joel Darmstadter and Hans Landsberg, "The Economic Background", in Raymond Vernon (Editor), The Oil Crisis, (New York: W.W. Norton, 1976), p. 19.

¹⁰Edith Penrose, op. cit., p. 49.

¹¹Joseph A. Yager et al., Energy and Foreign Policy, (Cambridge: Ballinger, 1974), p. 237.

¹²91st Congress, 2nd Session, Joint Economic Committee, The Economy, Energy and the Environment, September 1, 1970, p. 25.

¹³Ibid., p. 33.

¹⁴Ibid., p. 51.

¹⁵Ibid., p. 84.

¹⁶Mason Willrich, "The Electric Utility and the Energy Crisis, Public Utilities Fortnightly, 95, Number 1, January 2, 1975, p. 24.

¹⁷(See William Rodger, Brown-Out, Stein and Day, New York, 1972, for utility influence upon electric demand and feasibility of meeting self-generated demand).

¹⁸91st Congress, 2nd Session, Joint Economic Committee, The Economy, Energy and the Environment, September 1, 1970, p. 81.

¹⁹Ibid., p. 24.

²⁰91st Congress, 1st Session, U.S. Joint Committee on Atomic Energy, Environmental Effects of Producing Electric Power, 1969, p. 65.

²¹Joint Economic Committee, op. cit. p. 8.

²²Remarks by Joseph Swidler, "The Critical Path Between Energy Supply and Environmental Protection," 83rd Annual Convention of the National Association of Regulatory Utility Commissioners, Atlantic City, N.J., September 13-16, 1971.

²³93rd Congress, 2nd Session, United States Senate, Financial Problems of the Electric Utilities, Hearings before the Committee on Interior and Insular Affairs, August 7 and 8, 1974, p. 455.

²⁴Ibid., p. 31.

²⁵John W. Blair, op. cit., p. 296.

²⁶Public Utilities Fortnightly, editorial, June 22, 1972, p. 6

²⁷Electricity and the Environment, New York Association of the Bar, (St. Paul: West Publishing Co., 1972), p. 23.

²⁸Remarks by Joseph Swidler, 83rd Annual Convention of National Association of Regulatory Utility Commissioners, op. cit.

29. Hardin Garrett, "The Tragedy of the Commons," Science V 162, December 13, 1968, p. 1244.
30. Austin Heller and Edward Ferrand, "Low Sulfur Fuels for New York City," in John Harte (Editor), Patient Earth, (New York: Holt, Rinehart and Winston, 1971). Other studies which emphasize the chemical reactions and biological effects are Carnow, Bertram et. al., "Health Effects of Fossil Fuel Combustion: A Quantitative Approach," American Public Health Association, Washington, D.C., 1974, Arlan Cohen, et. al., "Symptom Reporting during Recent Publicized and Unpublicized Air Pollution Episodes," American Journal of Public Health, May 1974.
31. Larry E. Ruff, "The Economic Common Sense of Pollution," in Robert and Nancy Dorfman (Editors), Economics of the Environment, (New York: W. W. Norton, 1972).
32. Lyle E. Grain, "Institutions for Managing Lakes and Bays," Natural Resources Journal, Volume 11, July 1971, p. 524.
33. J. H. Dales, "The Property Interface," in Robert and Nancy Dorfman (Editors), Economics of the Environment, (New York: W. W. Norton, 1972), p. 308.
34. Garrett Hardin, op. cit., p. 1244.
35. Vincent Ostrom, "Human Fallibility, Political Theory and the Environment," Policy Studies Journal, Summer 1973, p. 211.
36. Grant McConnell, Private Power and American Democracy, (New York: Knopf, 1967), p. 112.
37. Gerald Garvey, Energy, Ecology, Economy, (New York: W. W. Norton, 1972), Chapter 9. See also John Esposito, Vanishing Air, (New York: Grossman, 1970), John R. Sax, Defending the Environment: A Strategy for Citizen Action, (New York: Knopf, 1971, and Richard Saltonstall, Your Environment and What You Can Do About It: A Citizen's Guide, (New York: Walker, 1970).
38. Cynthia H. Enloe, The Politics of Pollution in a Comparative Perspective, (New York: David McKay Co., 1975).
39. Esther Rodetti Schacter, Enforcing Air Pollution Controls, (New York: Praeger, 1974).
40. Clarence Davies, The Politics of Pollution, (New York: Pegasus, 1970).

- ⁴¹Grant McClellan, Protecting our Environment, (New York: H. W. Wilson, 1970).
- ⁴²James Ridgeway, The Politics of Ecology, (New York: E. P. Dutton, 1970), See also Ron Linton, Terracide, (New York: Paperback Press, 1970).
- ⁴³James C. Hite, et al., The Economics of Environmental Quality, Institute for Public Policy Research, Washington, D.C., 1972.
- ⁴⁴James C. Hite, et. al., ibid., H. Wolozin, Economics of Air Pollution, (New York: W. W. Norton, 1966), Ronald G. Ridker, Economic Costs of Air Pollution: Studies in Measurement (New York: Praeger, 1966).
- ⁴⁵Barry Commoner, "The Environmental Costs of Economic Growth," in Dorfman, ibid., pp. 261-283.
- ⁴⁶Larry Ruff, "The Economic Common Sense of Pollution," in Dorfman, ibid., pp. 3-20.
- ⁴⁷Electricity and the Environment, New York Association of the Bar, ibid., p. 166.
- ⁴⁸Michael Kraft, "Ecological Politics and American Government: A Review Essay," in Stuart Nagel (Editors), Environmental Politics, (New York: Praeger, 1975), p. 147.
- ⁴⁹Lester W. Milbraith, "The Environmental Problem as a Political Problem: An Agenda of Environmental Concerns for Political Scientists," International Political Science Association Convention at Montreal, Canada, IX World Congress, August 1970, p. 4.
- ⁵⁰John Lehtey and Edmunds Stahrl, Environmental Administration, (New York: McGraw Hill, 1973), p. 430.
- ⁵¹Michael Brenner, The Political Economy of America's Environmental Dilemma, (Massachusetts: Lexington Books, 1973) p. 7.
- ⁵²Robert L. Heilbroner, An Inquiry Into the Human Prospect, (New York: W. W. Norton, 1974).
- ⁵³Robert Paul Wolff, The Poverty of Liberalism, (Boston: Beacon Press, 1968) p. 121.

⁵⁴ Lynton Caldwell, "Environmental Quality as an Administrative Problem," Annals of the American Academy of Political and Social Science, November 1972, Volume 400, pp. 103-115, Environment: A Challenge to Modern Society, (New York: Doubleday, 1971) Man and His Environment: Policy and Administration, (New York: Harper and Row, 1975).

⁵⁵ Council on Environmental Quality, 1st Annual Report, August 1970.

⁵⁶ New York Times, March 23, 1974,

⁵⁷ New York Times, Editorial, April 7, 1974.

⁵⁸ Remarks by Russel Train before the Edison Electric Institute, EPA Seminar, Washington, D.C., December 3, 1973.

⁵⁹ Roy L. Meek and John Straayer, "The Iron Law of Environmental Disorder," in Roy L. Meek and John Straayer (Editors), The Politics of Neglect, (New York: Houghton Mifflin, 1971) p. 240.

⁶⁰ Memo from Alan G. Kirk II, Enforcement and General Counsel to the Regional Administrator, Region II, EPA January 10, 1974.

⁶¹ Conversation with Dr. Edward Ferrand, Director, Bureau of Technical Resources, Department of Air Resources, CEPA, February 14, 1978.

⁶² Grant S. McClellan, Protecting Our Environment, (New York: H. W. Wilson, 1970), p. 38.

⁶³ New York City Environmental Protection Administration, Minority Report to the Interdepartmental Committee on Public Utilities, July 31, 1970, p. 14.

⁶⁴ Grant S. McClellan, Protecting our Environment, op. cit.

⁶⁵ Bernard Goldstein, "Analysis of a Preliminary Manuscript entitled, 'Relation of Pollution Mortality, N.Y.C. 1963-1972,'" Health Research Council of the City of New York, Environmental Pollution Working Group.

⁶⁶ Anne Kolker Freedman and Jeffrey C. Cohen, The Environmental Impact of Supplying Power to the Con Edison Service Territory: 1975-1980, Citizen's for Clean Air, New York, August 1975, p. 4-7.

⁶⁷ Minority Report, New York City Environmental Administration, (CEPA), July 31, 1970, p. 12.

⁶⁸ CEPA Fact Sheet: Astoria Expansion.

⁶⁹ Minority Report, New York City Environmental Protection Administration (CEPA) July 31, 1970, p. 21.

⁷⁰ Ibid., p. 20.

⁷¹ Freedman and Cohen, op. cit. p. J-1.

⁷² Case 26309, Opinion 73-31, Public Service Commission.

CHAPTER II

DECISION-MAKING

The Usefulness of Studying Decision-Making

A useful way to explore the dynamics of political phenomena is to concentrate on the decisional processes of a political subsystem.* This approach provides a framework for analyzing situational and institutional factors, as well as relationships influencing the final choices of decision-makers. It also establishes the operational link between contemplated action and the goals of a decision-maker. "The decision-making process enables us to reinterpret the present structure

*Decision theory has been used in economics, psychology, sociology and organization theory to describe and predict behavior. See Richard Zechkhouser, and Elmer Schaefer, "Public Policy and Normative Economic Theory," in Raymond Bauer and Kenneth Gergen (Editors), The Study of Policy Formation (New York: Free Press, 1968), who develop a quantitative decision-making model to effect optimal choice. Discussion of cost-benefit analysis can be found in Robert Baker, et al., Public Policy Development (New York: John Wiley, 1975). In the field of psychology see G. H. Coombs and S. S. Momouta, "Measuring Utility of Money Through Decisions," American Journal of Psychology (71), 1958, pp. 383-389. In organization theory see Philip Selznick, Leadership and Administration, (New York: Harper & Row, 1957), Victor A. Thompson, A Modern Organization (New York: Alfred A. Knopf, 1961), and Cyert Richard and James March, A Behavioral Theory of the Firm, (Englewood Cliffs, New Jersey: Prentice Hall, 1963), and Richard Cyert, et al, "Models in a Behavioral Theory of the Firm" American Behavioral Scientist, No. 2, April 1959, pp. 87-95 and James D. Thompson and Arthur Tuden, "Strategies in Decision-Making," in Lyden, Fremont, et al (Editors), Policies, Decisions and Organizations, (New York: Meredith Corp., 1969), pp. 310-330.

of things in the context of what we have known in the past and seek in the future."¹ In addition, subjecting specific theories of decision-making to verification by means of empirical data provides an opportunity to link decision-making assumptions with real situations while identifying variables, constraints, and linkages.

Definition of a Decision

A decision is an action taken in response to a problematic situation; it is both a conscious choice by an individual or group from among alternative actions, and the final choice in a process initiated by response to a stimulus. "Decisions can be characterized as the instrumentality, the organizational mechanism, through which an attempt is made to reach an aspired state of affairs."² A decision is therefore the link between the stimulus and the goal of the decision-maker. The process of decision-making - the steps leading up to the final choice - constitute the decisional process, which primarily focuses on the behavior of actors, constrained by situational variables, in the realization of some goal. The decisional process "...is the sum of the particular techniques, methods, procedures and strategies by which a given decision is made"³...and that may occur both in the public purview and beneath the layer of public awareness. Situational factors may include political, economic, and social resources, political configurations, administrative behavior, interest group and political party activity, and information level.**

**An alternate approach offered by Richard Snyder, concentrates on the identifying of actors and the interactive processes which culminate in a decision. See Richard Snyder, "A Decision-Making Approach to the Study of Political Phenomena," in Roland Young (Editor), Approaches to the Study of Politics (Evanston: Northwestern University, 1958). A decisional process may also be perceived as a problem-solving situation. See Harold Lasswell, The Decisional Process: Seven Categories of Functional Analysis (College Park, Maryland: University of Maryland Press, 1956).

A decisional strategy designed to cope with response-demanding situations,⁴ is a mechanism which enables continual adjustment to changing environmental conditions and uncertainty. Once an issue reaches a stage where action is appropriate, selection of decisional strategy can be made. The strategy used in decisional situations serves as a guide to action. Strategies vary with perception of the time frame in which decision outputs occur, with amount of change sought and with evaluation procedures. Decision-making strategies fall on a spectrum from "rational comprehensive" to "disjointed incremental."

The Rational-Comprehensive Model

The rational-comprehensive model is based on positive assumptions about people's ability to behave in a rational manner, in a way reminiscent of human behavior in classical economic theory. The first step of the decision-maker in the rational-comprehensive type of decision strategy is identification and formulation of the problem. The decision-maker establishes parameters for the decisional situation and seeks to include all relevant factors affecting the problem. He can limit some of these factors by adjusting the time horizon of outcomes to be considered.

Once the problem has been conceptualized, goals or objectives which are to be maximized must be established. The more explicit they are, the easier it is to formulate plans for action. If there is more than one goal, decision-makers rank them in some order of priority, ensuring that objectives remain internally consistent.

The next stage is development of alternative means by which to reach the agreed upon goals. This is the operational stage whereby plans of action are formulated to satisfy desired goals.

Once alternatives are established and criteria and standards for evaluation are selected, plans can be made to maximize each alternative. Alternatives may then be compared in regard to their feasibility, probability of occurrence, likelihood of unintended consequences, cost-benefit ratio, and probability of error in calculations.

Following these predictive techniques, the outcomes of competing alternatives can be identified and the consequences of each plan evaluated with respect to the satisfaction of goals and objectives. A course of action can then be chosen which best realizes the intended goals.⁵

Advantages of the Rational Model

This model of decision-making encourages: (1) a choice of alternatives after careful analysis of a problem; (2) an explanatory rationale for the selection of an alternative; (3) direction for future decisions; and (4) the opportunity for implementing substantial change where it is felt necessary. The rational-comprehensive model of decision-making offers the use of creative analytic methods to shape and mold the future in problem areas where the past offers no guidance. "It is in these instances of really new undertakings where a system-analytic approach, in the hands of a skilled analyst, often can lead us to be very inventive in developing new approaches and techniques."⁶ William Capron suggests that rational-comprehensive decision-making is of obvious value where

either (1) innovation in approaches and techniques is called for, or (2) substantial changes in government activity are being contemplated, or (3) dissatisfaction with past programs leads to revisionist activity.⁷ Charting new paths frees the decision-maker of past decisions, enabling him to develop without the burden of prior mistakes to account for. The rational decision, a result of careful deliberation, thought, and calculation, has the potential of achieving the highest utility function in terms of desired outcomes.

Rational-comprehensive decision-making provides opportunities to coordinate policies across different issue areas. By meshing decisions of multiple decision-makers, it enables an overview of interacting policies.

The rational model emphasizes the search for knowledge. It expands the possible limits of cognitive powers to meet the demands of the problem-solving situation. Gaps or inconsistencies in knowledge force the decision-maker to develop new sources of information and to utilize such knowledge in a continuous feedback flow. This is a pervasive effort to justify the final decision as the culmination of a logical sequence of ordered analysis.

Limitations of the Rational Model

"Limits on human intellectual capacities and on available information set definite limits to man's capacity to be comprehensive."⁸ Critics of rational-comprehensive decision-making contend that man's rational powers are limited. A decision-maker cannot possibly know all relationships between causative factors and sets of problem areas. Critics argue

that this method is too optimistic about resolving problems in a system characterized by open variables as contrasted with a closed system where relationships among controlled and stable variables can be established.

Opponents of the rational model also contend that a decision-maker's rational powers are unnecessarily taxed and excessive costs are incurred in the attempt to formulate all possible alternatives which satisfy a goal. This exhaustive search for the best alternative may take considerable time and energy, an unsuitable factor when decisions must be made within a limited time frame. This lengthy, complex analytic approach may not be worth the effort - especially in cases where a suitable alternative is discovered early in the analytic process.

Another area of concern is the position of values on the decision-making spectrum. Critics of the rational-comprehensive model argue that: (1) decision-makers have difficulty agreeing on which values must be maximized at the expense of others; (2) even when basic values can be agreed upon, there may be value differences about the means employed to achieve an end; (3) values are unstable, changing over time and causing preferences to shift in alternative situations; and (4) solutions to problems may overlap into other problem areas, and the satisfaction achieved for the sake of one value may jeopardize attainment of another value.

Lindblom argues that the rational-comprehensive approach is unsuitable for complex problems which have shifting and amorphous boundaries.⁹ For example, a singular problem like inflation can be linked to others such as unemployment and education. Lindblom implies

that such "problems" cannot be solved using the rational-comprehensive approach because of the interlocking of groups, values, and problems, which no single solution can resolve.

Another limitation attributed to the rational-comprehensive model concerns the ability to determine outcomes of all alternatives under consideration. Herbert Simon warns that the difficulty in attributing a particular payoff to each outcome is not only an insurmountable task, but omits the occurrence of unanticipated consequences.¹⁰ Decision-makers cannot possibly know outcomes of alternatives when knowledge of causal factors is incomplete.

Victor Thompson concludes that the rational-comprehensive model is unsuited to decision-making in our society because "...It is receptive to undemocratic organizational forms."¹¹ Rational-comprehensive forms contribute to organizational domination of the individual, institutionalizing choices for individuals, routinizing problem-solving, and promoting overall acceptance of organizational goals. The system develops monocratic characteristics where "...goals and orders are presumably handed down from above."¹² According to Thompson, the rational-comprehensive model encourages organizational growth, elite decision-making, and uniformity - all of which jeopardize democratic processes.

The Incremental Model

Incrementalism

Since most decision-making in the United States does not conform

to the rational-comprehensive model, critics of it have sought to formalize a behavioral model of decision-making. Such a model has been called "successive limited comparison," "partisan mutual adjustments." and, more generically, "incrementalism." This model of decision-making reconciles the limits of man's rational abilities with the demands of problem-solving by setting more limited tasks.

Incrementalism directs decision-makers to examine only those values which are implicit in the alternatives being considered, and then only by comparing their differences. "One need not try to organize all possible values into a coherent scheme, but, instead, can evaluate only what is relevant in actual policy choices...."¹³ Rather than finding a choice which maximizes all values, values themselves are disregarded if they are "beyond present interest."¹⁴ One does not choose or rank abstract values but chooses among "alternatives that offer marginal combinations of values."¹⁵ It is difficult to gain agreement on which values are to be maximized because of: (1) biases of decision-makers; (2) the shifting of values over different time frames; and (3) the problem of each alternative involving diverse values which are too numerous to calculate. Therefore, in incrementalism one only examines values in which alternative policies differ. The choice of alternative and value are made simultaneously; one selects an alternative in which small increments of values can be sacrificed for other values in a compromise solution. Hence, policy examination requires only

comparative analysis of marginal differences in values - a task which is more adaptable both to people's intellectual capacities and to their access to reliable information.

Incrementalism allows problems to be handled in a serial and remedial fashion, enabling analysts to observe previous moves. The decision-maker focuses on coping with problems in a continual problem-solving process, rather than on solving them. The policymaker can thus make discrete moves away from an evil without having formulated an overall strategy or solution to the problem. Problems can be separated into sub-problems, each piece being the focus of a different decision-maker. No one decision-maker is responsible for total policy output; policy analysis is instead carried out by numerous decision-making centers, and aspects of a problem may be dealt with at different points without dealing with the complicating interaction of those centers. When conflicts in policy occur, they can be resolved through bargaining by shifting the problem to a higher authoritative decision-making level.

Advantages of the Incremental Model

Incrementalism offers the decision-maker a more manageable task. By focusing on small discrete actions, large mistakes can be avoided, and remediation can be made if adverse outcomes begin to appear. Results of past moves can provide a basis for present decisions, and minor adjustments can be made when new data are introduced. The chronological order of related steps also increases the level of knowledge,

enhancing ability to predict the consequences of decisions and actions made by other groups.

Unanticipated consequences of decisions are accounted for by having a multiplicity of decision-making centers in a particular policy area. If one decision-maker fails in one of his moves, or is beset with consequences he did not predict, the omission or mistake will be picked up by another decision-maker. According to Lindblom, this is preferable to allocating time and energy for the anticipation of every contingency.¹⁶ Although there is apparent uncoordination of policy, "...a high degree of administrative coordination occurs as each agency adjusts its policies to the concerns of the other agencies in the process of fragmented decision-making."¹⁷

Incrementalism avoids the difficulties decision-makers experience in securing agreement over values since only marginal differences are considered. It allows decision-makers to agree on policies regardless of their personal opinions. Long-term goal aspirations can be ignored by decision-makers because incrementalist decision-makers adjust the ends to fit the available means. "Since the policies ignored by the administrator are politically impossible and so irrelevant, the simplification of analysis achieved by concentrating on policies that differ only incrementally is not a capricious kind of simplification."¹⁸

Incrementalists contend that incrementalism is compatible with a social organism that is pluralistic and democratic in nature.¹⁹ Incrementalism is closely tied to the pluralist notions of politics which originated from the work of group theorists such as Bently, Truman,

Latham, and Dahl.²⁰ Group theory emphasizes that competition among groups provides the political system with flexibility; policies reflect the interaction, reconciliation, and conflict of groups in the political arena. The political process provides the context in which groups can channel their efforts to gain support for their positions. Pluralism as an extension of group theory is also the theoretical underpinning for incrementalism. Policymaking in a pluralist and democratic system moves in small steps, which is compatible with democratic societies where political attitudes change slowly.²¹ "It thus meets the needs of a stable society, where slow evolution leads to institutions that embody the wisdom of generations that should not be carelessly endangered."²² It is, according to Thompson, "...the only form of decision-making consistent with the group basis of politics."²³ The system is accessible (as pluralism requires) because it allows for present and future demands to be dealt with in an orderly fashion, thus producing stability. Decisions are small and remedial, and in the absence of long-range objectives, values are downplayed. Problems reach decision-makers through the interplay of groups and are processed by a complex adjustment of interests and by the unseen hand of the political system. "The link between the practice of the method of successive limited comparisons and mutual adjustment of interests in a highly fragmented decision-making process adds a new facet to pluralist theories of government and administration."²⁴

Limitations of the Incremental Model

While incrementalists may offer a descriptive model of decision-making, its normative implications are open to question. Free of analytical responsibilities, incrementalism can always be used by decision-makers to justify inaction. Wildavsky in Politics of Budgetary Process, justifies incrementalism because on a practical level it works. However, Dror argues, "If it is accepted uncritically, it can be very dangerous. Since it offers a 'scientific' rationalization of inertia and conservatism, it can easily 'prove' itself through self-fulfilling prophesy"²⁵ and block improvements in policy and policy-making.

Incrementalism offers no guidance and direction for future action. Policy develops in a haphazard manner as a result of multiple decision centers lacking comprehensive overview. Although incrementalists argue that problems neglected at one point in the decision process will become central at another point, such overlap is not inevitable. In addition to overlooking policies, it may happen that two or more policies affecting an issue area may conflict and wipe out the intended effects of a decision move. Incrementalists, however, are optimistic about the successful operation of redundancy in incremental decision-making, as this statement by Lindblom illustrates. "In a society like that of the United States in which individuals are free to combine to pursue almost any possible common interest they might have and in which government agencies are sensitive to the pressures of the group, ...all values and interests have watchdogs."²⁶ Nevertheless, redundancy is still only probabilistic, considering the success of articulated

interests included in the political process. Incrementalist proponents often use "straw man" arguments like Lindblom's to explain why incrementalism is superior to rational-comprehensive decision-making, but the positive attribute which is offered by incrementalism can often be found in other decision-making strategies as well. This attribute can also suffer from negative consequences. The following are a sample of other "straw man" arguments. (1) Incrementalism provides diversity, and rational-comprehensive decision-making does not. However, in the rational-comprehensive model, competing interests may well be articulated and handled. The greater the number of alternatives examined, the greater is the opportunity for expression of diverse interests. (2) The incremental model is based on a chronological order of successive steps, which increase the level of knowledge, enabling better predictions of consequences for similar proposed steps.²⁷ However, the rational-comprehensive model does not omit from analysis the knowledge gained from recent policy moves; rather, it can incorporate new data into the assessment of alternatives. The incremental model has more justification if past policies have been judged to be successful. But if incremental policies have not produced satisfactory results, subsequent dissatisfaction could lead to radical change. If problems have been persistently overlooked, thus precipitating crisis situations, radical movement away from some evil may appear to be the only alternative. Ironically, this is just what the incrementalist wants to avoid.

Incrementalism is likewise unsuitable in situations where precedent is lacking and a new problem area emerges. Where a past history for decision-makers to use as a basis for their decisions is lacking, policies must be innovative. Incrementalism is then unable to provide direction for decision-making. "Incremental change often does not fit new problems, since new knowledge and quickly changing conditions often make the past a poor, largely irrelevant, and even misleading guide for the future."²⁸

Incrementalism transforms means into ends. Emphasizing agreement and feasibility, these evaluational criteria eventually become goals themselves. Success is evaluated in terms of pragmatic standards because there are no other standards by which to assess the "goodness" of a decision.

Since it is unnecessary to reconcile substantive goals with each other, incremental decisions may be inconsistent with each other. The interplay of numerous small decisions which are never comparatively examined may eventually thwart even the most feasible objectives. Incrementalism often allows basic differences in policies to remain submerged until failure is apparent.

Efforts toward the reconciliation of interests do not encourage the search and acquisition of new information. Problems resolved through successive limited steps, especially in crisis situations, allow decision-makers to justify their limitations and constraints in attempting to reach a solution. They therefore have a ready explanation for their own helplessness. Incrementalism frees the

decision-maker from the responsibility of identifying the causal factors of problems. Because a decision-maker is never bound to "solve" a problem, "...he never expects his policy to be a final resolution of the problem."²⁹ A decision-maker is therefore not motivated to utilize available knowledge, seek new information, and actively deal with problems. The diminished role of rational thought and analysis could further limit people's capacity to deal with their environment. "Even if it is true that "the growing intelligence of mankind seems not to be growing rapidly enough to achieve mastery over the social problems, which the advances of chronology create,"³⁰ and even if knowledge is one limited way among many for preserving reality more fully, nevertheless it is also true that "systematic reasoning is something we could not, as a species or as individuals, possibly do without."³¹

If pluralism and incrementalism are theoretically linked, then critiques and comments about the pluralist model will likewise apply to the system of decision-making it uses. There is some agreement among political scientists that characteristics of pluralism are present in the American political system.³²

One frequent comment is that the pluralist model does not recognize that certain groups may be excluded from the decision-making process.³³ Their interests will not be protected by more powerful groups which have a greater stake in maintaining the status quo. Given this situation, the attribute of redundancy - which suggests that each group has watchdogs looking after its interests, and that a multiplicity of decision-makers will eventually pick up an interest left unaccounted for - loses its

potency.

Based on a self-sustaining equilibrium, a pluralist society is, "...temperamentally and intellectually ill-prepared for the task of strategic planning."³⁴ Incremental decision-making avoids planning, anticipating that future needs will be taken care of when they are brought to the attention of a decision-maker. Decisions "...seem to be largely unanticipated consequences of previous and lesser decisions made under pressure from a great variety of circumstances and participants."³⁵

Pluralism encourages incremental decision-making because groups are left to reach compromises. The government plays a brokerage role, regulating the process of bargaining among groups. Groups then are unable to take a comprehensive view of any problem because they are pitted against each other in a bargaining situation. Decision-making becomes means-oriented and primarily concerned with process, rather than with the formulation and implementation of objectives. Robert Paul Wolff argues that this phenomenon results in decision-making which ignores questions of the human community "...by encouraging a politics of interest group pressure in which there is no mechanism for the discovery and expression of the common good."³⁶

Using incremental decision-making, a decision-maker is unable to define or identify problems unless they are brought to the attention of the decision-maker by organized groups or media. Government is seen as passive until problems are brought to it. This tendency to wait for a crisis to occur before action is taken increases the likelihood that a crisis will

occur. Then the characteristics of decision strategy are shaped by crisis conditions.

Rational Incremental-Decision-Making Dichotomy

The argument that political scientists have debated concerning a rational-incremental dichotomy assumes an either-or relationship between incrementalism and rational-comprehensive decision-making. This is an artificial dichotomy; those models are better evaluated as points on a spectrum. Empirical decision processes are seldom purely of one pattern or the other. Rather, they are hybrids falling between the pure theoretical models. The usefulness and likelihood of one or other of these models prevailing varies with (1) the characteristics of the issue; (2) the values embraced; and (3) the structure of decision-making in a given society.

Since both models have normative and behavioral implications, it is necessary to distinguish statements for improving decision-making (normative) from descriptive statements (behavioral). The latter constitute empirical judgments and can be validated with survey data. The former are problematic, for they offer direction to decision-makers by defining the scope of the decision-making process. The argument over which decision-making method is preferable must be decided not in behavioral terms but with regard to which is more suitable for specific decision-making situations.

Where incremental-pluralist styles are relied upon, problems are identified as public problems primarily by action or communication from particular interested groups. Where rational-comprehensive styles are relied upon, formal institutional mechanisms for identifying the public interest and public problems may be established (e.g. planning).

There can be little controversy that the reason incrementalism describes most current decision-making practices is that decision-makers are forced by pragmatic considerations to deal quickly with crisis. With time as a constraining factor, they consider as few alternatives as possible. Since decision situations differ, some decisions may be better suited to alternative types of decision strategy. "When results of past policies have been found unsatisfactory, or have become so because of changes in what is wanted,...incremental change is neither descriptive of actual behavior nor a valid normative model."³⁷ Where incremental policies have contributed to cumulative dissatisfaction and when new areas of responsibility are being undertaken, rational-comprehensive analysis may be more suitable. When long-term values require substantive action, incremental decision-making offers only ameliorative steps. However, in situations where stability and predictive capability are difficult to obtain, incremental decision-making may be preferable. Decision-making situations may even require both types of decision-making to be undertaken simultaneously to encompass both the satisfaction of immediate and long-range goals.

It is sometimes difficult to distinguish whether a policy is incremental or more encompassing without reference to its historical or decisional situation. Some decisions may be perceived at one time as having enormous impact, and later as being embedded in social continuity. For example, when the welfare system was instituted in the 1930's, it was considered a radical step. Yet current welfare policies are generally questioned only in terms of efficiency. In fact, the abolition of the welfare system without some form of substitute would now be considered a radical step.

Even though incrementalists claim to have eliminated the necessity for evaluational criteria, decision-makers must use some tool to assess feasibility. Accurate predictions of feasibility rest on the reliability of acquired knowledge and the effective use of predictive tools. The more sophisticated these factors become, the more likely the feasibility criteria of incrementalism will be met.

The search process for alternatives can also reflect the continuum between incremental and rational-comprehensive decision-making rather than a dichotomy. In incrementalism, the search process consists of a comprehensive analysis of the marginal differences among limited recognizable alternatives. Decision-makers are not encouraged to search for ~~make~~ or all alternatives. Herbert Simon's model of "satisficing" is one step along the continuum. He suggests that the search continue until a satisfactory payoff is found. If the process is time consuming Simon advises that the "satisfactory" quality desired be redefined. The "satisficing" quality is somewhat closer to incrementalism and more realistic, according to Simon. "...Organisms adapt well enough to satisfice," but they do not, in general, "optimize,"³⁸ Yehezkel Dror, however, is concerned with finding an alternative, which he calls an optimal choice, that is closer to the rational comprehensive end of the continuum. He suggests that "We should continue searching until we either find such an alternative or conclude that we can find no such alternative within the means at our disposal, in which case we must mobilize additional resources for the search or change our standard of "good."³⁹ Dror differs from the incrementalists because of the criteria used to select that good alternative. His criteria include: (1) high probability that society will survive; (2) high probability that it will be politically and

economically feasible; and (3) continual improvement in new policies as compared with the past.⁴⁰ Dror's interest in improving public policy-making leads him to recommend extensive surveys of knowledge, continual follow-up in each stage of policy-making, and utilization of cost-benefit comparisons as tools to evaluate alternatives.

One function which all decision-making serves is to relieve uncertainty, which can constitute the greatest obstacle a decision-maker faces.⁴¹ One way to reduce uncertainty is to increase the level of information. The rational-comprehensive model provides a framework where phenomena can be analyzed. Research and analysis of problems provide a data base which can increase predictive capabilities, and Dror's optimal model of policy-making emphasizes this role of information as a means for improving policy-making. "Policy-makers' subjective image of reality must approximate the aspects of objective reality that are relevant to their values as closely as possible..." to bring about the desired results.⁴² Information-gathering techniques are intended to refine and keep in perspective a true image of reality.

The rational-incremental dichotomy can be further misleading when analyzing degree of change. It is not true that all incremental decisions result in incremental change. It is necessary to separate the effects of a decision from the way in which the decision was made. The incremental model of decision-making stresses stability as opposed to the rapid or large-scale change possible in rational-comprehensive decision-making. However, not all decisions made incrementally are followed by minor changes in outcome. It is conceivable that unanticipated consequences

may maximize the intended impact of the decision. Moreover, a series of incremental decisions may have an unexpectedly greater impact in the long run, particularly as the fragmentation of decision-making units and the multiplicity of decision-making centers increase. When taken cumulatively, the impact of numerous small decisions can be greater than that of a single comprehensive decision. Conversely, a decision made as a result of rational-comprehensive analysis may produce minimal results. It is therefore, too simplistic to argue that one form of decision-making is superior because of the intrinsic worth of its intended impact.

As we noted in our discussion of pluralism, exclusive use of incrementalism may perpetuate the status quo by not aggressively attacking problems and, instead, relying on events to shape policy. By allowing decision-makers a passive role, this aspect of incrementalism is at odds with the dominant rational culture which emphasizes conscious, calculated, and controlled actions.⁴³ Michael Brenner argues that quantified technology and predictability are dependent upon the ability to effect such actions - an ability that is limited for incrementalists by their focusing only on marginal change. The incrementalist neglects "...the element of rational, conscious, goal-oriented behavior among the political objects of its study."⁴⁴

Rather than build a case for either incremental decision-making or rational-comprehensive decision-making, focus should be directed toward reconciling decision strategy with the particular decision situation. Dror notes that one reason decision-making theory has contributed little

to complex policy-making is the failure to discriminate among various kinds of decisions.⁴⁵ In crisis situations, where time and uncertainty are constraining factors, decision-makers have little choice but to fashion their decisions in small moves. Incremental decision-making is pragmatic and satisfies short-term goals. Wildavsky, recognizing the merits of the more comprehensive approach, deals with the defects of incrementalism by adopting aids and strategies to support decision-making. He notes that, in budgetary matters, "An incremental approach guards against radical departures most of the time, whereas agency advocacy and strategies designed to take advantage of emergent needs help to ensure flexibility."⁴⁶ Rational-comprehensive decision-making incorporates long-term goals into its analysis and provides a framework to deal with whole sets of problems. The use of more sophisticated evaluation techniques and information processing and feedback mechanisms is directed at making decision-making "better," minimizing the occurrence of crisis situations.

Case Study Analysis

This study centers around two case studies involving similar actors in different decision-making situations covering a four year time span. Data provided by these case studies may be useful in suggesting relationships and propositions operating in one political subsystem over time, in this case, energy-environmental politics in New York City. Such relationships or propositions may be tested in other political systems as well. Data can also be used to explain sources of variation in energy-environmental policy in one political subsystem

within a time frame or among different political subsystems in a comparative fashion. The use of two cases has limited predictive value, but the cases may provide the basis for developing hypotheses derived from real life situations. It may be that we can perceive the different decision strategies used by different actors to be influenced by their institutional positions and subsequently relate these differences to their chances for success in their own terms. It is anticipated that such efforts will contribute toward more complete understanding of energy-environmental politics.

Decision-making is used as an analytical tool to uncover variables influencing a particular political outcome (i.e., roles, constraints, resources and goals). Decision-making can be thought of as a pattern of observable events leading to a decision. The case study provides data from which a type of decision-making can be located on a continuum from incrementalism to rational-comprehensive by comparing the theoretical attributes of a decision-making pattern with the empirical data. The decision-making pattern can be thought of as a dependent variable and the institutional and situational factors which influence that pattern as the independent variables. An illustration would be a problem with unstable and uncertain technical factors contributing to many small adjustments, that is, trial and error, which would encourage incremental decision-making.

Political scientists have only recently employed decision-making as a focus for analyzing political phenomena. Aaron Wildavsky in The Budgetary Process (Boston: Little, Brown and Co., 1964), describes the decision-making process of budgetary allocations in Congress by identifying the strategies employed by decision-makers. He characterizes the budgetary process as a series of incremental moves compatible with

twentieth century American politics. George H. Hagevik, in Decision-Making in Air Pollution Control, (New York: Praeger, 1970) one of the first studies using decision-making in an environmental perspective, used empirical data from the field of air pollution regulation and found that incrementalism was most compatible with the existing political and institutional framework, especially with regard to its bargaining aspects. Hagevik attempted to devise additional decision-making strategies that could be integrated with a decentralized and fragmented political system. Charles O. Jones' Clean Air: The Policies and Politics of Pollution Control, (Pittsburgh: University of Pittsburgh Press, 1975) is a comprehensive case study of air pollution in a Pennsylvania town directed towards a greater understanding of the political process of policy formulation and implementation. It constitutes an effort to place decision-making in a public policy framework. Jones uses empirical data to redefine current models of public policy. Another case study involving air pollution is The Un-Politics of Air Pollution by Matthew Crenson. He uses the case study method to determine characteristics of political institutions which would explain the level of community effort in dealing with the issue of air pollution in two similar cities. Drawing on the work of Schattschneider as well as Bachrach and Baratz in the area of non-decision-making,⁴⁷ he concludes that there is a non-decision-making process where certain issues never reach the decision-making stage. This phenomenon, he believes, may be the result of reputational power that was never exercised. Although the four authors mentioned above used decision-making as a focus for analysis, their research took them in

different directions, illustrating the usefulness of the decision-making focus.

The identification of a pattern of decision-making can be thought of as the behavioral analysis, while the normative analysis is the evaluative stage. Wildavsky, recognizing this distinction in the last paragraph of *The Politics of The Budgetary Process*, says, "The intimate connection between descriptive and normative statements is never more evident than when policy recommendations are made."⁴⁸

One can appraise the effect of a type of decision-making, such as incremental, upon the ability of a local government, for example, to deal with energy-environmental crises. Such analysis could include the effect of incremental decision-making upon the availability of alternatives and the recurrence of crisis situations. Other normative analyses might address the impact of decision-making strategy upon the satisfaction of long-and short-range goals.

Behavioral and normative implications of decision-making strategy are often indistinguishable from each other in the literature, which incorrectly implies that what exists is preferable because it is what people do. This is particularly true of incrementalists, who suggest that the presence of a strategy or method implies that a preference for it has been expressed (i.e., normative choice), and that the choice was a conscious one. But is incrementalism then a result of a conscious choice among decision-makers rejecting other strategies or an observation of decisional behavior? The subtle shifting from descriptive to normative

analysis is misleading. It is hoped that this author will not make the same error, having carefully reserved normative discussion of decision-making strategy for the concluding chapter.

CHAPTER II

FOOTNOTES

¹Bross, Irwin, Design for Decision, (New York: Macmillan, 1953), p. 2.

²Ibid.

³James Robinson and R. Roger Majak in John Charlesworth, Contemporary Political Analysis, (New York: Free Press, 1967), p. 179.

⁴Bross, op. cit., p. 1.

⁵For further discussion of the rational-comprehensive model see John Lehty, and John and Stahrl Edmunds, Environmental Administration (New York: McGraw Hill, 1973), p. 416; Craig C. Lundberg, "Administrative Decisions: A Scheme for Analysis," in William J. Gore and J. W. Dyson, The Making of Decisions, (New York: Free Press of Glencoe, 1964), p. 23; George H. Hagevik, Decision-Making in Air Pollution Control, (New York: Praeger, 1970), p. 22 and Graham T. Allison, "Conceptual Models and the Cuban Missile Crisis," American Political Science Review No. 3, September 1969, pp. 689-718.

⁶William Capron, "The Impact of Analysis on Bargaining in Government," in Alan A. Altshuller (Editor), The Politics of the Federal Bureaucracy, (New York: Dodd, Mead, 1968), p. 205.

⁷Ibid.

⁸Charles Lindblom, "The Science of Muddling Through," in William J. Gore and J. W. Dyson, (Editors), The Making of Decisions, (New York: The Free Press of Glencoe, 1964), p. 162.

⁹Ibid., pp. 155-169.

¹⁰Herbert Simon, "A Behavioral Model of Rational Choice," in Irwin Bross, (Editor), Design for Decision, (New York: MacMillan, 1953), p. 115.

- ¹¹Victor A. Thompson, Decision Theory, Pure and Applied, (New Jersey: General Learning Corp., 1971), p. 10.
- ¹²Ibid., p. 11.
- ¹³Charles Lindblom, The Intelligence of Democracy, (New York: Free Press, 1965), p. 145.
- ¹⁴Charles Lindblom, "The Science of Muddling Through," op. cit., p. 155.
- ¹⁵Ibid., p. 160.
- ¹⁶David Braybrooke and Charles Lindblom, A Strategy of Decision, (New York: The Free Press, 1963), p. 126.
- ¹⁷Ibid., p. 165.
- ¹⁸Ibid., p. 164.
- ¹⁹Victor Thompson, "Decision Theory, Pure and Applied," op. cit., p. 10.
- ²⁰See the work of Arthur Bentley, The Process of Government, (Chicago: University of Chicago Press, 1908), David Truman, The Governmental Process, (New York: Knopf, 1951); Earl Latham, The Group Basis of Politics, (Ithaca: Cornell Press, 1952), Robert Dahl, A Preface to Democratic Theory, (Englewood Cliffs: Prentice Hall, 1965), and Robert Dahl, Modern Political Analysis, (Englewood Cliffs: Prentice Hall, 1970).
- ²¹Charles Lindblom, "The Science of Muddling Through," op. cit., p. 163.
- ²²Yehezkel Dror, Public Policy Reexamined, (San Francisco: Chandler Publishing Co, 1968), p. 144.
- ²³Victor Thompson, op. cit., p. 9.
- ²⁴Charles Lindblom, "The Science of Muddling Through," op. cit., p. 165, ff. 7.
- ²⁵Yehezkel Dror, Public Policy Reexamined, op. cit., p. 145.
- ²⁶Charles Lindblom, "The Science of Muddling Through," op. cit., p. 164.

²⁷Ibid., p. 166

²⁸Yehezkel Dror, Public Policy Reexamined, op. cit., p. 302.

²⁹Charles Lindblom, "The Science of Muddling Through," op. cit., p. 166.

³⁰Reinhold Niebuhr, Moral Man and Immoral Society, (New York: Scribner and Sons, 1960), p. 50, as cited in Hehezkel Dror, Public Policy Reexamined, op. cit. p. 301.

³¹Aldous Huxley, The Doors of Perception, (London: Chatto and Windus, 1960), p. 62, as cited in Yehezkel Dror, Public Policy Reexamined, op. cit., p. 301.

³²Roy L. Meek and John A. Straayer, "The Iron Law of Environmental Disorder," in Meek and Straayer (Editors), The Politics of Neglect, (New York: Houghton Mifflin, 1971), Henry Kariel, The Decline of American Pluralism, (Stanford: University of Stanford Press, 1961), Michael Brenner, The Political Economy of America's Changing Environmental Dilemma, (Massachusetts: Lexington Books, 1973).

³³Theodore Lowi, The End of Liberalism, (New York: Norton, 1969).

³⁴Michael Brenner, The Political Economy of America's Changing Environmental Dilemma, (Massachusetts: Lexington Books, 1973), p. 16.

³⁵Grant McConnell, Private Power and American Democracy, (New York: Knopf, 1967), p. 337.

³⁶Robert Paul Wolff, The Poverty of Liberalism, (Boston: Beacon Press, 1968), p. 160.

³⁷Dror, Public Policymaking Reexamined, op. cit., p.145.

³⁸Herbert Simon, "A Behavioral Model of Rational Choice," Models of Man, (New York: Wiley, 1957), p. 261.

³⁹Dror, op. cit., p. 178.

⁴⁰Ibid., p. 187.

⁴¹Ibid., p. 15.

⁴²Ibid., p. 167.

⁴³Michael Brenner, op. cit., p. 23.

⁴⁴Ibid.

⁴⁵Dror, op. cit. p. 13, ff. 1.

⁴⁶Aaron Wildavsky, The Budgetary Process, (Boston: Little, Brown & Co., 1964), p. 178.

⁴⁷E. E. Schattschneider, The Semi-Sovereign People, (New York: Dryden, 1960), and Peter Bachrach and Morton Baratz, Power and Poverty, (New York: Oxford University Press, 1970),

⁴⁸Aaron Wildavsky, op. cit., p. 180.

CHAPTER III

THE SETTING

The characteristics of intergovernmental relations in the American political system contribute to its decisions, particularly proliferating government programs and overlapping jurisdictional responsibilities. The dynamics of federalism become problematic when local governments must make decisions implementing national and state policy directives in areas where they lack technical resources and expertise and where major responsibility for policy formulation rests with the other governments. The dispersion of governmental power weakens the regulatory function. Moreover local governments are subject to intense pressure from groups whose influence would be diluted if the scope of conflict were enlarged. Furthermore, coordination of activities among different levels of government becomes increasingly difficult as governments have taken on additional responsibilities to deal with societal ills. The proliferation of government programs on all government levels has increased the overlap of functional responsibility already inherent in the federalist structure. In addition to the fact that many programs are competitive, coordination becomes difficult when programs are in the same policy area or affect the same clients. Programmatic policy-making on different government levels lacking preconceived patterns or goals often results in unmanageable, ineffective and wasteful outcomes.

Attempts to attack social problems i.e. poverty, urban decay and environmental degradation, cut across state and local political boundary lines as well as agency lines on any level of government. Such problems

are not confined to political boundaries nor amenable to piece-meal solutions. The multiplication of decision-making centers is also due to the increase in decision-making autonomy of administrative agencies which have increased in numbers and complexity. This has contributed to the narrow focus of each decision-maker and conflict among decision centers.

This chapter describes structural factors common to the two case studies appearing in Chapters IV and V. It lists the major actors and describes their jurisdictional authority as described by administrative and statutory regulations.

A decision-making situation is formed by structural and political factors which determine the parameters of possible actions. The interaction between structural factors, which act as either constraints or mandates, and fluctuating political variables combine to form the setting in which decisions are made. The way in which actors respond to structural factors affect the decision-making outcomes. Structural factors include administrative procedures, legal rules and regulations, and institutional hierarchies with authority. Structure has thus been defined as, "...arrangements of specialized and mutually dependent institutions that have evolved as citizens of a society have interacted with each other to organize collective action for the solution of common problems."¹ Structural factors affect policy choices in several ways. Administrative rules and statutory regulations serve as prescriptive guidelines for action by decision-makers. The rules and institutions influence interrelationships between decision-makers and other actors, limit options, and determine agenda.

Political factors that shape decision-making situations include

potential sources of power and power configurations, relationships to other issues and authoritative actors, norms and perceptions of the actors, and issue salience to larger publics. Political variables tend to shift more rapidly than structural ones, for example, with a change of administration to leadership which espouses a new set of values or programs.

The role of each actor develops from (1) the actor's perception of his or her own position in an organization, (2) the actor's perceptions of other actors, and (3) the actor's desire to behave in ways which conform to regularized patterns of interaction based on prior experience. The major actors described below include: the Environmental Protection Agency, the Federal Energy Office, the Army Corps of Engineers, the New York State Department of Environmental Conservation, the New York State Public Service Commission, the New York City Environmental Protection Administration, the Mayor's Office, and Consolidated Edison.

The Environmental Protection Agency (EPA)

The two cases discussed in this study occurred in two decision situations which shared the same actors in stable and similar roles. On the federal level of government, the primary environmental actor was the Environmental Protection Agency (EPA). When the EPA was established on December 2, 1970, it took over the responsibilities of other federal agencies involving both air and water pollution.² Transferred to its jurisdiction were the Federal Water Quality Administration, renamed the

Water Quality Office (WQO), the National Air Pollution Control Administration of the Department of Health, Education and Welfare (HEW), renamed the Air Pollution Control Office (APCO), the Bureau of Radiological Health, and those sections of the Food and Drug Administration that had dealt with pesticides, radioactive standards, and environmental effect aspects of the Atomic Energy Commission, and some functions of the Department of Agriculture.³ The broad powers of EPA include the setting and enforcement of standards, research about the causes, effects, and control strategies of environmental pollution, and assistance to states and localities.

Prior to EPA's establishment there were over 20 federal agencies concerned with some aspect of air pollution. (For example, problems of smoke control were handled by the Bureau of Mines in the Department of the Interior, while other pollutants were studied by the Division of Air Pollution of the Public Health Service, which was in 1966 switched to the Bureau of Disease Prevention and Environmental Control in HEW until 1968, when it was again transferred to the Consumer Prevention and Environmental Health Service, under the direct jurisdiction of the Secretary of HEW.) During the 1960s Congress passed a series of Clean Air Acts recognizing the need for some kind of comprehensive national policy to deal with the problem of air pollution. In 1963, the first Clean Air Act (P.L. 88-206) authorized the federal government to gather data on the health effects of pollutants and to assist states and localities in the development of control programs with technical assistance and matching grants. The 1965 Clean

Air Act (P.L. 89-272) granted authority to establish air emission standards for automobile exhaust to the HEW Secretary. The Air Quality Act of 1967 (P.L. 90-148) recognized the need for a greater federal role in air pollution control, and directed HEW to establish atmospheric regions for the purpose of setting air quality standards.

A major goal of EPA was to implement the Clean Air Act of 1970 (P.L. 91-604).⁴ Section 101(b) states the purposes of the Act: "(1) to protect and enhance the quality of the Nation's air resources so as to promote the public health and welfare and the productive capacity of its population; (2) to initiate and accelerate a national research and development program to achieve the prevention and control of air pollution; (3) to provide technical and financial assistance to State and local governments in connection with the development and execution of their air pollution prevention and control programs; and (4) to encourage and assist the development and operation of regional air pollution control programs."⁵ Section 107 gave EPA the power to designate air quality control regions for purposes of setting standards. Section 108(a)(1) gave it authority to formulate criteria for pollutants designated either for having an adverse effect on health or for whose presence in the air was a result of numerous or diverse mobile or stationary sources. These criteria were to be "...an expression of the scientific knowledge of the relationship between various concentrations of air pollutants and their adverse effects on man and his environment."⁶ The Administrator of EPA must then make known the effects of these pollutants on the public health and welfare and advise the states on

air pollution control techniques.⁷ Following that, the Administrator must publish national primary (affecting health) standards and secondary (affecting public welfare) standards which must be met by each control region.⁸ These standards "...prescribe pollutant exposures that a political jurisdiction determines should not be exceeded in a specific geographic area...."⁹ Each state must (after public hearings) submit an implementation plan "which provides for implementation, maintenance, and enforcement of such primary standards in each air quality control region within each State."¹⁰ The same procedure was to be followed for meeting secondary standards. Primary standards were to be attained no later than three years after promulgation of the national standards (with a possible 2-year extension if requested by the Governor) and secondary standards within a reasonable time. If the Administrator disapproves of the State Implementation Plan (SIP) or if a State does not submit a plan within the established time limit, the Administrator may impose regulations to meet primary and secondary air quality standards. If violations of an SIP occur, EPA may issue orders for compliance after 30 days notice, or may initiate civil action. If a state then fails to enforce an SIP and violations are widespread, after another 30 days notice, EPA may begin to oversee enforcement of the SIP.¹¹ In the fall of 1973, the EPA administrator ruled that any change in a state's air pollution control laws affecting the maintenance of an SIP would be subject to EPA review.¹² EPA considered that such variances would be subject to civil suits under Section 304 of the Clean Air Act unless they were approved by EPA and became an official revision of the SIP

(if only a temporary variance was being considered by the state).¹³ The fuel shortage of 1973-1974 led to a number of requests by states for variances to their SIP's because of the scarcity of low-polluting fuels. EPA stated that need must be an overriding factor before any variances could be allowed, and that such variances would only be temporary and based upon proof from oil suppliers that clean fuels were unavailable.¹⁴ All variances to SIP's were published in the Federal Register.

Federal concern for water pollution has a longer history than for air pollution. As early as 1912 the Public Health Service (PHS) was authorized to investigate the pollution of navigable waters. Although a Division of Water Pollution was established within the PHS in 1948, most research and related activity was carried on by the states. The 1948 Federal Water Pollution Control Act¹⁵ gave the states responsibility for the establishment and enforcement of water quality standards, while the PHS coordinated research and technical information upon the request of the states. The federal Water Pollution Control Act of 1970¹⁶ directed states to promulgate water quality standards based on a determination of the purposes of water use and the development of criteria for each use. The Water Quality Office (WQO) of EPA has authority to approve these standards. The Water Quality Improvement Act of 1970¹⁷ further provided that any applicant for a federal license or permit, for construction or operation of a facility which would result in a discharge into a United States navigable waterway, must provide the licensing agency with a certificate from the appropriate state water quality office assuring that water quality standards will not be impaired. EPA advised

that it would override state recommendations where state standards were lax, nonexistent, or inconsistent with the purposes of the Federal Water Pollution Control Act.¹⁸

Although Congressional action in environmental protection seemed a victory for environmentalists, the Nixon administration was inclined to sacrifice environmental concerns for other interests. President Nixon contended that the relaxation of environmental standards was necessary to avert a serious energy crisis.¹⁹ He proposed measures which opponents of environmental legislation had long advocated, for example: (1) to consider the cost of pollution controls in the setting of standards; (2) to eliminate the non-deterioration section of the Clean Air Act (which prohibited a region from becoming more polluted even if it remained within air quality standards), allowing air quality to decline to meet those standards, (3) to give the President broad powers to suspend environmental regulations and to speed up the licensing of nuclear power plants, despite severe potential hazards.²⁰ Nixon also supported proposals of energy developers to establish new sources of energy in spite of environmental consequences, for example, the dredging of deep water ports for larger tanker vessels and construction of the trans-Alaska pipeline. The White House also advocated postponement of the implementation sections of the Clean Air Act and the continuance of strip mining for purposes of energy development.

The Executive branch, which supported creation of the EPA, worked hard to impede EPA's efforts to fulfill its mandate. EPA disagreed with the argument that environmentalists were partially responsible for the

energy crisis. "The current energy crisis is now being cited by those who fear the future as proof that concern for the environment has already begun to ruin us. They imply that we must abandon all this environmental nonsense and use fuel any way we please."²¹ Russell E. Train, Administrator of EPA, openly disagreed with the President by insisting that air quality standards would not be relaxed.²² Train argued that no inherent conflict existed between solutions to energy shortages and protection of the environment.²³ Suggesting that the energy crisis was providing some with support to attack environmental legislation, he stated, "The charge that environmental programs will impede economic activity is totally wrong. It's just the opposite. It's environmental burdens like the toll on human health that are the real constraints on growth."²⁴ Unfortunately for the EPA, waning support in the White House for strong environmental measures ensured the EPA a weak start.

The Federal Energy Office (FEO)

Congressional response to the fuel shortage which occurred in the fall of 1973 was the "Emergency Petroleum Allocation Act of 1973."²⁵ This granted the President specific temporary authority to allocate crude, residual, and all refined imported and domestic fuel products.²⁶ In order to carry out the intent of the legislation the President delegated this authority to a newly created Federal Energy Office (FEO) on December 6, 1973.²⁷ The Federal Petroleum Allocation Regulations stated that fuel oil allocations to electric utilities would be based on the extent to which conversions to coal could be made, the extent to which utilities had complied with federal suggestions to burn coal,

and the extent to which coal could be used more fully by those utilities already using it.²⁸ The FEO also said it would base its recommendations on the availability of coal stocks²⁹ and the minimal levels of residual fuel oil reserves deemed necessary by the Federal Power Commission (FPC) to maintain power supplies.³⁰ The FEO wanted as many plants as possible to use fuels other than oil, thus freeing it for other uses. However, in order to meet national air quality standards, many power plants had just finished converting their boilers from coal to oil burning. Although neither FEO nor EPA could force fuel conversions, if utilities were denied oil allocations, they themselves would be forced to switch back to coal.

FEO and EPA developed conflicting views over the issue of coal conversion and the allocation of oil. While FEO was responsible for meeting energy demands, EPA was concerned that, in the process, gains that had been hard victories in air pollution control would be lost through widespread use of high polluting fuels. The enabling legislation took notice of this conflict but did not resolve it. The Emergency Petroleum Allocation Act merely stated that the Clean Air Act could not be contravened.³¹ The EPA argued that before any utilities were converted back to coal the utilities must be able to prove that emission standards would be met.³² The FEO was responsible for directing fuel to areas experiencing shortages, but it did so without regard for the sulfur content of the fuel. The EPA tried to minimize the impact of high polluting fuels by checking fuel supply data of utilities and intervening directly in fuel transactions between utilities and oil suppliers.

EPA also advised FEO on the relative feasibility of conversions to coal, placing the highest-polluted areas on the bottom of the list. By March 1974, 44 plants were identified for short-term conversions. EPA recommended short-term conversions while FEO officials were more inclined to advocate long-term conversions to ease the fuel shortage. EPA feared that once conversions to coal were made, utilities would be reluctant to switch back to oil when the fuel emergency subsided. Pending legislation, which would have made all conversions to coal permanent, substantiated EPA fears that progress in controlling air pollution would be permanently abated if high-polluting fuels were permitted even on a short-term basis.

The Army Corps of Engineers

The authority of the federal government to issue permits for construction on or discharge into navigable waters rested with the Army Corps of Engineers by power assigned to it in the Rivers and Harbors Act of 1899 (also called the Refuse Act).³³ Section 13 "...provides in part that it is unlawful to throw, discharge, or deposit, or cause suffer, or procure to be thrown, discharged, or deposited either from or out of any ship, barge, or other floating craft of any kind, or from the shore, wharf... any refuse matter of any kind or description whatever other than that flowing from street and sewers and passing therefrom in a liquid state, into any navigable water of the United States,...whereby navigation shall or may be impeded or obstructed...."³⁴ The Act also provided that the Corps be

required to issue permits prescribing conditions and limitations to allow the deposit of material in navigable waters. Section 10 of the Refuse Act required the Corps to issue permits for the construction of any facility on a navigable waterway.

In order to fulfill the aims of water quality legislation and the National Environment Policy Act of 1969 (NEPA)³⁵ (which proposed to minimize environmental deterioration by requiring environmental impact statements for any action by a federal agency that would significantly affect the environment), a permit program was announced by the President on December 23, 1970,³⁶ to be administered by the Corps under the authority granted it under the Refuse Act. The original intent of the Refuse Act was expanded in 1966 to interpret "discharge" as not only impediments to navigation but any agent of pollution.³⁷ Moreover, it included environmental factors not necessarily directly related to water quality, for example, a change in water temperature as the result of discharges of heated water, and any effect on fish and wildlife, aesthetics, recreation, or flood damage protection. All such factors were now to be considered by the Corps in its evaluation of permit application.³⁸

After the Corps receives an application for a permit, it is forwarded to EPA, Department of Interior, the National Oceanic and Atmospheric Administration of the Department of Commerce, and the head of any state wildlife agency for comments. It may also be sent to the Federal Power Commission and the Atomic Energy Commission, if their licensing is required. Public notice of the application is made to

state, county, and municipal authorities with responsibility for water quality. If EPA finds that a permit for a proposed discharge is not consistent with water quality standards, the Secretary of the Army will not issue the permit.

The environmental impact statement required of all federal agencies where proposed action significantly affects the environment³⁹ applies to the Corps only where a discharge has significant effect on the environment involving other than water quality factors. (Water quality is addressed in sections of the 1970 Federal Water Pollution Control Act).⁴⁰ The impact statement must: (1) identify environmental impacts which will result from the proposed action; (2) discuss protective and remedial measures to counter the adverse environmental impact; (3) analyze the alternatives and justify the final choice; and (4) assess the long-term impact of irreversible effects.⁴¹ Upon receipt of the statement, the Corps forwards it along with comments received from other federal agencies to the Council on Environmental Quality.

Although formal permit power was lodged with the Corps, it was required to abide by EPA recommendations. This generated tension between the two agencies. The Corps, sensitive about its low public image because of a history of public works projects which showed little concern for environmental matters, tried to enhance its status by exhibiting visible attention to the environment in the permit program.

The New York State Department of Environmental Conservation
(DEC)

New York State, in response to increasing internal demands and

growing responsibilities imposed by Federal legislation on environmental matters, established the Department of Environmental Conservation in 1970.⁴² The Division of Pure Waters oversees water quality standards of the state and the Division of Air Resources is responsible for maintaining air quality standards. In 1972, the New York State legislature passed the Environment Conservation Law to "...conserve, improve, and protect /the state's/ natural resources and environment and control water, land and air pollution, in order to enhance the health, safety and welfare of the people of the state and their overall economic and social well-being."⁴³ The Law states that the policy of the state will be to guarantee, "...that the widest range of beneficial uses of the environment is attained without...health risk, unnecessary degradation or other undesirable or unintended consequences,"⁴⁴ and to promote patterns of economic development which minimize adverse environmental effects.

The Department of Environmental Conservation (DEC) is authorized to issue permits for any construction on a navigable waterway.⁴⁵ Public Health Law 1230.3(b), which specifically applied to steam electric generating plants, was superceded by Environmental Conservation Law 17-7013(b), which authorizes permits for discharges, and Environmental Conservation Law 15-0503, which authorizes permits for construction. If a possibility of destruction to natural resources exists (i.e., forests, soil, water, fish and wildlife), DEC is required to hold public hearings before issuing such a permit.⁴⁶ In granting the permit, DEC "...shall ascertain the probable effect on natural resources

of the state."⁴⁷ However, the legislation provides no specific allowable discharge criteria for any particular existing plant, but sets temperature levels for a specific type of water body which cannot be exceeded. Consequently, there is discretion in evaluating the impact of effluents from any particular source.

The Air Pollution Control Act of New York State⁴⁸ was designed to "...maintain a reasonable degree of purity of the air resources of the state, which shall be consistent with the public health and welfare and the public enjoyment..."⁴⁹ One of the duties of DEC is to develop a "...comprehensive plan for the control or abatement of existing air pollution and for the control or prevention of any new air pollution."⁵⁰ As required by the federal Clean Air Act of 1970,⁵¹ New York State's Implementation Plan for meeting federal air quality standards was approved on May 31, 1972.⁵² The approved standards and criteria appear in New York Codes, Rules and Regulations, Part 225. Section 2(b) established a limit on the sulfur content of fuel for stationary air emission sources at .3% by weight. The DEC Commissioner may grant an exception to this regulation for a period of up to one year, if an insufficiency of conforming fuel is certified by the Chairman of the Public Service Commission (PSC). A temporary exemption can be issued for up to 45 days if the applicant forwards an affidavit to the DEC Commissioner stating that he is unable to obtain the required fuel, or that the health and welfare in an area is jeopardized.⁵³ DEC regulations also allow it to designate a local agency to act as an agent of DEC in implementing and enforcing the State's air quality regulations. New

York City is the only locality to which that delegation was made.

DEC performed its tasks under the close supervision of the Governor's office with little opportunity to develop independent strategies. Decisions have been made on the highest level of authority after consultation with DEC staff personnel. The first DEC Commissioner, Henry Diamond, maintained a comfortable working relationship with New York City's Environmental Protection Administration. During the period from 1970 to 1973, DEC usually followed CEPA initiatives. This pattern was occasionally interrupted when the Governor's office had a particular interest in opposing current CEPA objectives, thereby coercing DEC to support policies it did not favor.

The Public Service Commission (PSC)

The Public Service Commission (PSC), established by New York State in 1907, regulates the operations of public utilities in the State. Its supervisory powers include approval of rates charged to customers, determining utility service area, overseeing accounting procedures, approval of franchises, issuance of securities, and testing and inspecting equipment. In the area of electric power generation, PSC must approve all new construction of facilities. "No gas corporation or electric corporation shall begin construction of a gas plant or electric plant without first having obtained the permission and approval of the commission."⁵⁴ Another function of PSC is to ensure that adequate supplies of fuel are available for electric utilities to operate their plants. It can order utilities to reserve specified amounts of fuel for

emergency use. If a fuel shortage is anticipated, the PSC Commission can order an increase in the reserve margin requirements or issue a certification of fuel insufficiency.

Growing dissatisfaction with electric companies, high rates and poor service created a public interest in PSC's record of utility regulation. The press portrayed PSC Commissioners as political appointees who were incompetent and functioned as rubber stamps for the Governor and the utilities. The expansion of the Chairman's powers under the Rockefeller administration allowed PSC to increase its authority in areas relating to utility functions while it enhanced the Governor's role in PSC activities. The close relationship between the Chairman and the Governor afforded advantages. Although the primary responsibility of PSC is to ensure that the State is provided with adequate electric power,⁵⁵ the Governor advocated that it be the siting agency for new transmission facilities. Since under this arrangement, PSC would evaluate any environmental effects incurred by projected new sitings, this naturally upset environmentalists, who noted that Governor Rockefeller's support of increased electric power as an essential ingredient to economic growth coincided with utility and PSC attitudes. Critics doubted that a power agency could impartially evaluate environmental concerns when power was their prime interest.

The New York City Environmental Protection Administration (CEPA)

New York City government has been concerned with controlling air pollution since the 1930s, when the Department of Health established a

smoke control unit. The Bureau of Smoke Control, between World War II and 1949 a part of the Department of Housing and Buildings, became independent in 1950. The Bureau had responsibilities which included the licensing of all equipment producing objectionable emissions and forcing compliance with any rules or regulations requiring alterations in existing equipment.⁵⁶ In 1952, the Department of Air Pollution took over these functions. By 1965 public concern with air pollution in New York City induced the City Council to undertake a study of air pollution in the metropolitan area. The Council's report indicated that New York City had one of the highest levels for sulfur dioxide and suspended particles of any United States city.⁵⁷ With mayoral support and public interest generated through a series of public hearings, the Council passed Local Law 14 on May 29, 1966. It stated that, "For the purpose of controlling and reducing atmospheric pollution, it is hereby declared to be the policy of the city to establish and maintain active and continuing supervision of combustion...contributing to atmospheric pollution..."⁵⁸ The new law restricted the sulfur content of fossil fuels citywide to 2.2% until May 20, 1967, 2% until October 1, 1969, and 1% thereafter.⁵⁹ The Council's success in stimulating public interest in the environment was one of the few times the usually weak City Council took substantive action on a major issue.

Part of Mayor Lindsay's administrative reform program designated to increase efficiency and the coordination of social service delivery was the consolidation of functional departments into "super-agencies." Former Department of Air Resources (DAR) Commissioner Robert Rickles has

prepared proposals for such action early in the Lindsay administration.⁶⁰ CEPA was the super agency created in 1968 to incorporate the environmental monitoring functions of the Department of Water Resources, the Department of Air Pollution, the Department of Sanitation, and the Department of Public Works.^{61, 62} Its mandated policy goals were: to (1) preserve the total urban environment and restore those elements of the environment that had already deteriorated; and (2) to consolidate those offices dealing with aspects of the environment.

One of CEPA's early achievements was the proposal of a more stringent Air Code to the City Council, conforming to the stricter federal and state standards for sulfur dioxide, particulates, and the inclusion of other pollutants (i.e., asbestos, lead, and mercury). These recommendations were approved by the City Council and became Local Law 49.⁶³ The Code expressed the belief that each citizen had the right to air that was not "...detrimental to life, health and enjoyment of his property."⁶⁴ To that end CEPA would try to "preserve, protect and improve the air quality of the city."⁶⁵ The Code tightened controls on the sulfur content of fuel used by power plants to .5% after October 1, 1971 and .3% after October 1, 1972.⁶⁶ Variances to these regulations could be granted, "...upon presentation of adequate proof, that compliance with any provision of this code or with any regulation or order of the administrator,...would impose unreasonable hardship."⁶⁷ Such a variance can be extended for a maximum period of six months, but the applicant must file a written petition with the CEPA Administrator. If there is a fuel supply emergency which jeopardizes electric power

supply needs, a variance may be granted for up to 45 days circumventing the procedural requirements of the code.⁶⁸ CEPA's successful record in reducing pollution levels in the city, especially of particulates and sulfur dioxide, was primarily due to these restrictions for the sulfur content of fuel and to the upgrading of incinerators.

Being a young agency, CEPA tried to expand its influence within the administration and to build a constituency to which it could turn for support. CEPA acquired a crusading, idealistic image, attracting young people drawn to city government by the reform attitudes of the Lindsay administration.

The appointment of Jerome Kretchmer, a lawyer and former Assemblyman, to the position of Administrator was generally believed to be a result of his early support for Lindsay's mayoral candidacy. Politically ambitious himself, he later offered himself for mayoral consideration in 1973. Kretchmer's leadership differed in style from that of his predecessor Merle Eisenbud, who was disinterested in major policy initiatives. Kretchmer, however, gave new life to the agency. He brought in six crusading attorneys and developed a public information department to generate materials and form a conduit for information exchange with the public. He challenged any actions by Con Edison which would jeopardize recent improvements in air quality. He believed strongly that Con Edison ought to be subject to stricter regulation by the city.

Kretchmer worked closely with the Commissioner of the Department of Air Resources, Robert Rickles. Rickles provided Kretchmer with

technical information, and Kretchmer gave his full support to DAR activities. Neither Kretchmer nor Rickles were reticent about resisting the pressure of anyone - including the Mayor - if CEPA interests were being jeopardized. They believed that a position of strong advocacy could awaken concern and create a mechanism for public choice in environmental matters. Since no real environmental constituency existed, they believed one had to be created. They argued that political appointees (such as themselves) must create constituencies to support their policies, whereas elected officials already exhibit constituent support at the polls as a base to work from. Kretchmer encouraged the CEPA staff to form working relationships with environmental interest groups such as Citizens for Clean Air and Clean Air Campaign and with news reporters such as Steve Lawrence of the New York Post, informing them of CEPA activities and actively consulting with them.

The Department of Air Resources (DAR), part of CEPA, was responsible for enforcing the city's Air Code. When the leadership of DAR passed to Rickles in 1970, a turning point in the city's relations with Con Edison occurred. Joint enterprises ended, such as the production of joint brochures, with the city publicizing Con Edison programs to decrease air pollution. DAR let Con Edison know it would no longer publicly applaud the utility's leadership in converting to lower sulfur content fuels, nor would it continue to answer public complaints about Con Edison. Further, it would no longer intervene with other governmental agencies on Con Edison's behalf and risk being

accused of having too close a relationship with the utility. DAR abandoned the voluntary industry-governmental approach (which had been encouraged because of the unfeasibility of shutting down a Con Edison plant if it were in violation of the Code) for a stricter and more antagonistic approach.

CEPA depended on DAR's Bureau of Technical Services for technical data dealing with the impact of fuel on air quality and the monitoring of stacks to determine emission impact on air quality at specific source points. Because of its specialized function (to gather information), the Bureau remained a step away from the political debates.

A temporary component of CEPA established in October of 1973 was the Emergency Energy Supply Task Force, which was formed to operate as a "think tank" to deal with the emergency fuel supply problems projected in the fall of 1973. Its role was to establish the facts regarding availability of fuel oil, to monitor Con Edison's fuel supply, and to make recommendations to the Administrator on applications for variances to the Air Code. The Task Force became the city's liaison with Con Edison and state and federal officials. Although CEPA's overriding concern was environmental protection, its powers were expanded to include a determination of which fuels could be burned by users based on an analysis of fuel availability and on the impact of fuels with varying sulfur levels upon air quality. CEPA's relationship to Con Edison took an abrupt twist, since CEPA became for a period a procurer of fuel for Con Edison.

The Mayor's Office

The Mayor's formal powers with respect to the environment include the approval or denial of permits by city agencies, such as those permits normally required for construction. These include Department of Buildings, Department of Ports and Terminals, and DAR permits for boiler installation. In addition to directing the evaluation of agency permits, if the Mayor wishes, he can informally control the policies and impact of an agency by means of his powers of appointment and budgetary decisions. The Mayor can also, by executive order, create new commissions or committees to supplement the activities of CEPA or create an alternative mechanism for environmental decision-making. The Interdepartmental Committee on Public Utilities (ICPU) created in 1970 to deal with problems relating to public utilities, was just such a supplement.

Mayor Lindsay, a Republican fusion candidate, had received much of his support from a coalition of independents, liberals, and parts of the Democratic organization. He was often forced to balance competing interests to maintain his sometimes shaky political base. His base also included support from the private sector (i.e., banking, the media, and real estate interests) which was needed to raise the large sums of money necessary for mayoral campaigns. On one side, advisors in his Administration, including Kenneth Patton of the Economic Development Administration, were fearful that industry would leave the city if power shortages and poor electric service continued. Patton warned of repercussions such as a shrinking tax base and lost jobs if environmentalists had their way. The Mayor's position reflected an attempt to

placate both environmental advocates and the power advocates (the latter consisting of commercial, real estate, construction, and labor interests).

While Mayor Lindsay allowed CEPA an opportunity to formulate plans and programs, his reluctance to follow CEPA recommendations eventually led to resignations of key CEPA staff. During the subsequent administration of Mayor Abraham Beame, resignations continued because of disillusionment within CEPA.

Even before recognition of the city's fiscal crisis, the Beame Administration did not consider the environment a high priority issue. Under Beame's leadership, CEPA experienced a withdrawal of support and agency funds. The number of CEPA inspectors was substantially reduced from 90 to 12.⁶⁹ There was a 1% cutback of personnel in the DAR and a 176 position loss in the Department of Water Resources.⁷⁰ Due to these factors, CEPA had less freedom to pursue particular programs. The agency was more closely supervised by the Mayor's Office, receiving instructions which often conflicted with CEPA staff recommendations. Although Mayor Beame did not associate himself with environmental issues, he preferred letting CEPA remain the city's enforcement agency rather than permit the state or federal government to assume responsibility for the city's meeting requirements of the State's Implementation Plan.

Consolidated Edison (Con Edison)

Con Edison has long been a notable presence in New York City politics. One reason is that Con Edison has a monopoly over electric power generation

in the city. Con Edison in its present form was created from a merger in 1933 with Consolidated Gas and other local electric companies. At that time, Mayor LaGuardia, recognizing the potential power of a monopoly utility, unsuccessfully sought to reduce rate charges to the city by implementing a yardstick approach allowing the city to maintain a few of its own power plants. Con Edison, with PSC support, argued that this would impose a financial burden on its operations, and the plan was abandoned.

A second reason for Con Edison's political power involves the city's interest that Con Edison remain healthy economically. If the value of Con Edison stock declines, increasing the interest rates charged to the utility for borrowing, the extra costs incurred by the utility would eventually be borne by the consumer in the form of higher rates. Therefore the electric consumer has an interest in preserving the financial viability of the utility.

Third, Con Edison is the largest single taxpayer in the city: it paid a total of \$262 million in real property taxes to the city in 1973.⁷¹ When expansion of PASNY markets in New York City are considered as an alternative to Con Edison's monopoly franchise, the city's interest in tax payments from Con Edison (passed on to power consumers) dissuades it from seeking change.

Fourth, Con Edison has links with influential groups in the city. Con Edison is a major employer in the city, granting construction contracts to private firms. Its minority recruitment program has been a source of praise by minority leaders. Con Edison has also established ties to local community leaders. Representatives of Con Edison attend civic functions, and economic support is given to street fairs, concerts

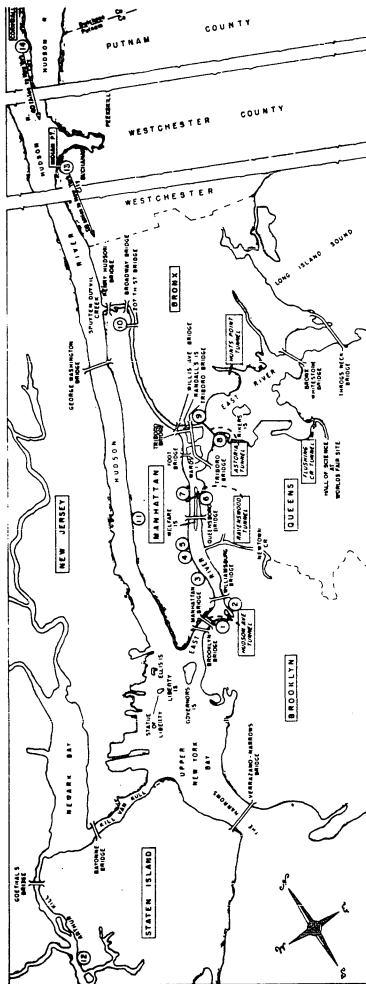
and other neighborhood activities. Members of the Board of Directors represent important banking, financial, and legal institutions in the city, reinforcing links among the economically powerful.

A requisite of corporate management is the projection the company's needs and markets for the future, i.e., long-term planning. Con Edison has projected a 4.2% growth rate in demand for 1975-80 and 3.9% for the 1980-85 period. To meet this demand, Con Edison must allow for construction of new facilities, retirements of old units, planned purchases, large additions to load to make sure net capacity resources exceed reserve requirements. System planning is done annually for 5 year periods and cover a 20 year range as required by Public Service Commission.

This type of activity carried on exclusively by the utility, excludes the public. Governmental authorities enter only at the approval stage when they are called on to rule on the particular question within their jurisdiction.

The government lacks any overall coordinating mechanism for meeting electric power demands on a local or regional basis. The myriad of governmental actors may produce conflicting policies which inhibit the implementation of each.

In conclusion, Con Edison's political clout stems from a combination of the city's dependence on a single source of power, a coalition of forces supporting Con Edison policies, a close association with the city's important economic leaders, and the absence of city input into the decisions which affect the way electric power is produced and marketed in the city.



CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.

- MAIN OFFICE - 4 IRVING PLACE, MANHATTAN

- ① - HUDSON AVE. - (E & S) - HUDSON AVE. @ EAST RIVER, BROOKLYN
- ② - KENT AVE. - (E) - KENT AVE. @ DIVISION ST., BROOKLYN
- ③ - EAST RIVER - (E & S) - 14th ST. @ EAST RIVER, MANHATTAN
- ④ - KIPS BAY - (S) - 417 E. 35th ST., MANHATTAN
- ⑤ - WATERSIDE - (E & S) - 38th ST. @ FIRST AVE., MANHATTAN
- ⑥ - RAVENSWOOD - (E & S) - 3854 VERNON BLVD., QUEENS
- ⑦ - 74th ST. - (E) - 506 E. 75th ST., MANHATTAN
- ⑧ - ASTORIA - (E) - 20th AVE. @ 21st ST., QUEENS
- ⑨ - HELL GATE - (E) - 134th ST. @ LOCUST AVE., BRONX
- ⑩ - SHEPHERD CREEK - (E) - 201st ST. @ HARLEM RIVER, MANHATTAN

- ⑪ - 59th ST. - (E & S) - 830 TWELFTH AVE., MANHATTAN
- ⑫ - ARTHUR KILL - (E) - 4401 VICTORY BLVD. STATEN ISLAND
- ⑬ - INDIAN POINT - (E) - NUCLEAR POWER PLANT AT BUCHANAN, N.Y.
- ⑭ - CORNWALL - (E) - PROPOSED HYDRO ELECTRIC PUMPED STORAGE PLANT AT CORNWALL, N.Y. WITH 2,000 MW CAPACITY

SYMBOLS - (E) - ELECTRIC GENERATING STATION
 (S) - STEAM GENERATING STATION

Conclusion

Structural factors were influential in limiting governmental decision-making strategies. The numerous and uncoordinated regulations required at different governmental levels and the absence of clear jurisdictional authority resulted in fragmented decision-making and a legal framework incapable of producing coordinated and continuing policy moves. This, in turn, increased bargaining requirements among agencies to reach decisions. Uncertain political factors (e.g. the competition between newer and more mature agencies) reinforced that effect.

The administrative and political setting established the fabric of interactions in which subsequent decisions were made. It was characterized by complexity and the fragmentation of authoritative functions. Crisis decision-making left little time for rational-comprehensive forms of analysis, yet without longer range perspectives, crises continued to appear in new forms. Piecemeal legislative responses, coupled with rapidly changing political configurations and the absence of long-range, comprehensive, internally consistent policy decisions, allowed for the continuation of an energy-environmental crisis.

CHAPTER III

FOOTNOTES

¹Lennart Lundquist, "Do Political Structures Matter in Environmental Politics," International Political Science Association, IX World Congress, Montreal, Canada, August 24, 1973, p. 2.

²Reorganization Plan No. 3, 1970, Doc. No. 110364.

³Ibid.

⁴42 U.S.C. 1857, December 31, 1970.

⁵Ibid.

⁶O. W. Stopinski, and R. P. V. Baksler, "Air Quality Criteria," in Robert Searle and Raymond A. Sierka, (Editors), Energy Needs and the Environment, (Tucson: University of Arizona Press, 1973), p. 149.

⁷Clean Air Act, 42, U.S.C. 1857, Section 108(b) (1) (a).

⁸Ibid., Section 109.

⁹Stopinski, op. cit.

¹⁰Clean Air Act, 42 U.S.C. 1857, Section 110 (a) (1).

¹¹Ibid., Section 113 (a) (1)

¹²40 CFR 51.32.

¹³EPA Guidelines for This Winter's Fuel Problems, October 15, 1973.

¹⁴Remarks by Russell E. Train, EPA Administrator, before the Edison Electric Institute, EPA Seminar, Washington, D.C. December 3, 1973.

- ¹⁵62 Stat. 1155.
- ¹⁶33 U.S.C. 466.
- ¹⁷33 U.S.C. 1171 Sec. 21 (b), P.L. 91-224.
- ¹⁸New York Times, April 7, 1971.
- ¹⁹New York Times, September 9, 1973.
- ²⁰Ibid.
- ²¹Remarks by Russell Train before the Gen Edison Electric Insitute, op. cit.
- ²²New York Times, September 11, 1973.
- ²³Wall Street Journal, March 22, 1974.
- ²⁴New York Times, op. cit.
- ²⁵87 Stat. 627, PL 93-159, passed November 27, 1973.
- ²⁶Ibid.
- ²⁷Executive Order no. 11748, 38 F.R. 33575.
- ²⁸10 CFR Ch. II, Part 200.59 (b) (2) (i), December 13, 1973.
- ²⁹Ibid.
- ³⁰10 CFR Ch. II, Part 211.163 (b)
- ³¹87 Stat. 627, P.L. 93-159, 1973.
- ³²EPA Action Memo, March 25, 1974.
- ³³33 U.S.C. 407, Adopted March 3, 1899.
- ³⁴Ibid.

³⁵42 U.S.C. 4321-4347.

³⁶Executive Order No. 11574, "The Administration of the Refuse Act Permit Program," 35 F.R. 19627-19628.

³⁷U.S. v Standard Oil (384 U.S. 224).

³⁸Hearings held by the Army Corps of Engineers, March 24, 1972, Astoria, Queens.

³⁹Federal Water Pollution Control Act of 1970, Section 21 (b) and (c), 36 F.R. 6570, April 7, 1961.

⁴⁰36 F.R. 6570, April 7, 1971.

⁴¹42 U.S.C. 4321-4347.

⁴²Chapter 140, Laws of 1970.

⁴³Environment Conservation Law, Section 1-0101.

⁴⁴Ibid., Section 1-0101, (c) (b).

⁴⁵Ibid., Section 15-0503 (1)

⁴⁶Ibid., Section 15-0503 (3) (d)

⁴⁷Ibid., Section 15-0503 (3) (b).

⁴⁸Environment Conservation Law, Article 19.

⁴⁹Ibid., Section 19-0103.

⁵⁰Ibid., Section 19-0301 (2) (a).

⁵¹42 U.S.C. 1857 et seq.

⁵²37 F.R. 10842

⁵³6 NYCRR Part 225.3 (b).

⁵⁴Public Service Law, Article 4, Section 68. As of July 1972, a certificate of environmental compatibility and public need from the State Board on Electric Generating, Siting and the Environment became a requirement. See Article VIII, Public Service Law, Section 141.

⁵⁵Public Service Law, Article VII effective July 1, 1970.

⁵⁶Local Law 4 (1949) and Local Laws 114 and 115 (1952).

⁵⁷See minutes of Council, June 22, 1965, pp. 1166-1258.

⁵⁸Chapter 41 of the New York City Administrative Code, Section 892-1.0.

⁵⁹Ibid., Section 833-1.0.

⁶⁰Interview with Carolyn Konheim, Department of Air Resources, Public Information, November 5, 1977.

⁶¹Local Law 3, Executive Order, N.65, 1968.

⁶²Transition Papers, VI, Fund for the City of New York, 1974.

⁶³Chapter 5 of the City Administrative Code, passed by the City Council, August 25, 1971.

⁶⁴Ibid., Section 1403.2.

⁶⁵Ibid.

⁶⁶Ibid., Section 1403.2-3.11(a)

⁶⁷Ibid., Section 1403.2-3.11(a).

⁶⁸Ibid., Section 1403.3-1303 (c)

⁶⁹Stan Luxenberg, "Who's Enforcing Air Pollution Laws in New York?" New England, April 1975, p. 44.

⁷⁰Message of the Mayor, 1974-1975, Executive Budget.

⁷¹Phyllis Peterson, "Con Edison (B)," Papers of Harvard Business School, 1974, p. 7.

CHAPTER IV

CASE STUDY: THE PROPOSAL TO BUILD TWO PLANTS, ASTORIA #6 AND #7

New York City uses less electricity per capita than the nation as a whole. New York City experienced a growth rate in customer use of electricity from 1960 to 1970 of 5.2%, which was less than the national average of 7.4%.¹ Nevertheless, Con Edison estimated in 1970 that it would have to construct 2,700 MW of new installed capacity by 1973 and almost 6,000 MW of new installed capacity by 1980 to meet projected demand by New York City.²

In the early 1960s Con Edison had unsuccessfully attempted to construct a nuclear facility at its site in Ravenswood, Queens, in order to increase its generating capacity. Community opposition to having a nuclear plant in a densely populated area - which was, incidentally, directly across the river from the United Nations - forced Con Edison to withdraw its proposal from the FPC in 1963. Instead, Con Edison installed a 1,000 MW steam generating unit (the largest in the United States) and called it affectionately "Big Allis" since it was manufactured by Allis-Chalmers, Inc.

In 1966, while the city was establishing more stringent air pollution controls, Con Edison and Mayor John Lindsay signed a Memorandum of Understanding, in which it was agreed that any new coal or oil-fired plants would be built outside the city. Promising to conform to clean

air standards by 1976, Chairman Charles Luce said that any new electric power that the city required would be brought in on transmission lines.

The Astoria Plant Proposal

Con Edison's proposal to add a 1,600 MW facility (two 800 MW plants) at its site in Astoria, Queens, which already housed four generators with a total capacity of 1,455 MW, was first made public in a letter to the Mayor on July 22, 1969. Con Edison Chairman Luce claimed this proposal was consistent with environmental goals and the 1966 Memorandum of Understanding. Moreover, the construction was deemed mandatory if a power crisis was to be averted in 1974. In return for the city's approval, Luce proposed to use fuel with a .37% sulfur content at Astoria, which he argued would reduce sulfur emissions by 60%. However, Luce refused to consider the use of .37% sulfur fuel at all Con Edison plants unless all users in the city followed suit. Luce used a loophole in the 1966 Memorandum which stated: "Con Edison accepts the principle that, to the fullest possible extent, power from coal or oil fired plants should be generated outside the city limits."³ Con Edison argued that, although it had begun a program of construction outside the city, it still needed additional power because of delays in the completion of three of these plants. Moreover, Con Edison argued that the new Queens plant would enable it to retire old and inefficient plants, and thus reduce emissions from them, which was consistent with the clean air goals of the 1966 Memorandum. To meet immediate shortages, additional use of gas turbines was to be allowed off the Astoria and Cowanus sites. (Gas turbines are

unreliable and costly, and are used mostly for peak fuel consumption periods.)

Before the Mayor took any action, a number of reports evaluating the proposed Astoria plant were forthcoming. On September 8, 1969, the Mayor requested that the Development and Resources Corporation, chaired by David E. Lilienthal, offer recommendations on a course of action for the city. Its report on October 28, 1969, suggested "...that a new, large oil burning plant, within the City, should not be built unless there is simply no workable alternative."⁴

Austin Heller, Commissioner of DAR, informed the Mayor of his particular displeasure with Con Edison's proposal. "Neither the Astoria plant nor the Hell Gate plant is a desirable site for short-range or long-range expansion. Air quality data collected by the Department has corroborated a study supported by Con Edison, which indicates that emissions from these sites causes especially great deterioration of air quality in Queens and the Bronx."⁵ Heller further noted that the proposed gains from the use of .37% fuel in exchange for approval were misleading because, if all plants use .37% sulfur fuel, "...then the apparent improvement made by upgrading the existing facilities at the Astoria plant will be negated. Moreover, the expansion of the plant will represent an added burden of increased emissions to the City for an indeterminable period."⁶

On December 9, 1969, the Interagency Task Force on Electric Power, under the direction of John Duba, Administrator of Municipal Services Administration, submitted its report to the Mayor. It supported

the findings of the Lillienthal Report and recommended that the city take a more active role in regulating its energy supply and the development and implementation of Con Edison plants. It recommended approval of the Astoria proposal only reluctantly, since it could find no other alternative.

In the fall of 1969, Con Edison filed its Ten Year Plan with the FPC and PSC. No formal permission from either agency was required to begin construction. The PSC approved the Plan without any analysis of the Astoria project. The FPC suggested that air quality standards could be met for the Astoria plants, which were deemed the only available alternative to ensure an adequate power supply.

Con Edison tried to obtain support from the local community for the proposed construction. Company representatives met with Astoria civic leaders, offering a football and soccer field, running field, basketball court, and volleyball court.⁷ Con Edison also promised a one mile aesthetically constructed fence, a new traffic entrance, and the removal of two unsightly gas tanks. Queens Borough President, Sidney Levis, praised Con Edison's efforts to improve the community. Levis seemed to have been won over. After a Con Edison tour, he asked, "How many people would choose to eat in a non-air conditioned hotel or motel?"⁸ "We have no other alternative but to supply the ever-increasing demand for power."⁹

In the Spring of 1970, the Mayor organized an Interdepartmental Committee on Public Utilities (ICPU) to evaluate the Astoria proposal. It consisted of the Commissioners of five city agencies: Milton Musicus from the Municipal Services Administration; Jerome Kretchmer from the

Environmental Protection Administration; Ken Patton from the Economic Development Administration; Bess Myerson from the Department of Consumer Affairs; and Timothy Costello, Deputy Mayor. Also included was Lee Rankin, Corporation Counsel, in an advisory capacity. On May 28, 1970, representatives of Con Edison appeared before ICPU to outline the proposed expansion. Administrator Kretchmer complained that Con Edison was reluctant to provide adequate documentation for the need of the Astoria plant.¹⁰ In a letter from Louis H. Reddis, Jr., to Milton Musicus, Chairman of the ICPU, Con Edison simply restated its case. The delays on upstate plants, increase of power demand, intention to retire old plants, inapplicability of gas turbines for baseloads, expense and legal difficulties securing transmission rights, and the unreliability of purchased power left the Astoria plant as the only alternative. In support of its position, Con Edison referred ICPU to FPC Chairman Nassikas' May 20th letter which expressed the hope that "no undue delays will be encountered in accomplishing the installation of these units on schedule."¹¹

During the period of time that ICPU was formulating its report, Con Edison suffered outages at "Big Allis" in Queens. Numerous "brown-outs" necessitated that the federal government make several hundred megawatts available to Con Edison through the Tennessee Valley Authority.

The ICPU Report

On August 1, 1970, ICPU announced its 3-2 verdict in favor of the Con Edison Astoria proposal. Musicus, Myerson, and Patton constituted

the majority opinion, while Kretchmer and Costello voted against the proposal. The Report was a lengthy document, consisting of both a majority and minority section. The core of the minority report emphasized health effects, and offered alternatives available to Con Edison for more power. Commissioner Robert N. Rickles, Department of Air Resources (CEFA), requested the National Air Pollution Control Administration (NAPCA) - at that time part of the Department of Health, Education and Welfare - to supply data concerning air pollution in New York City, since Con Edison had charged that the city EPA commanded inadequate information to evaluate the situation. In a letter to Kenneth Johnson, New York Regional Director of the National Air Pollution Control Administration (NAPCA), Donald F. Walters, Director of the Division of Abatement (HEW), provided the necessary evidence. He pointed out the dangers of adding to already excessive emissions on the East River. "The emissions per unit area are so great that the ability of the air to disperse the contamination sufficiently is frequently overwhelmed."¹² Nine of the twelve city plants are located on the East River. Astoria itself is surrounded by 3 Con Edison plants. The wind direction one third of the time parallels the river, and the fumes from these plants intermingle. This would occur even if lower-sulfur content fuel were used. Downwash from La Guardia Airport jet airplanes complicates the problem by bringing effluents to the ground quickly. He suggested that Astoria would be a source of pollution even after the anticipated demands of 1974 were met.

NAPCA further advised Rickles that current standards for sulfur oxide

and particulate emissions were not being met. "I urge that you evaluate the new Astoria facility in the light of other pollutant sources. Such a facility would pollute the air of New York long after the power capacity needs are met by the completion of nuclear and pumped storage facilities."¹³ On July 20th, NACPA recommended that no additional plants be built in New York City because sulfur oxide levels near the East River were already double and triple contamination criteria. "From a community health point of view, therefore, it is undesirable to locate this plant in an area of already high...emissions."¹⁴ NACPA's position was strong and direct in its opposition to the Con Edison proposal.

City Administrator Kretchmer maintained that Con Edison really did not need the Astoria plants, because there would be a surplus once the upstate plants were completed. The city's EPA maintained that there were 2,525 MW of reserve over the 20% requirement of the FPC, which brought the total reserve margin to 36% of demand. The minority report of ICPU also claimed that there were alternatives to the construction of a plant within the city. Although Con Edison currently purchased 1,200 to 1,500 MW per year, they had omitted this source for estimation of future supplies. The minority report suggested that Con Edison develop its plans for plants on David's Island and Verplanck, sites already belonging to Con Edison. The report suggested that the old units scheduled for retirement be held until 1974, when new sources of power would be made available. These older units, using .37% sulfur fuel, emit less sulfur oxide (6,300 tons or about 5.7% of total emissions in the city) as compared with 15,000 tons expected with a 1,000 MW plant (about

14% of total emissions). The minority report also maintained that, even with .37% sulfur fuel, federal minimum standards for air quality in the Bronx and Queens would be surpassed. Delaying the retiring of older plants would be a temporary commitment to the use of fossil fuel plants in the city.

The ICPU majority report acknowledged the importance of environmental constraints but was more concerned with possible power shortages faced by the city. Differing in priorities with the minority report, it noted that the city lacked the technical competence to evaluate either the capacity of Con Edison, its reliability or projected load estimates. The opinions of the FPC and PSC were highly influential in the majority report.

The final recommendation of ICPU that the Astoria plants be built was based upon the use of natural gas by Con Edison, although FPC let it be known that natural gas in increased quantities would not be available for use in power generation. If more natural gas became available, it would be used for space heating. (Natural gas emits almost no sulfur oxides or nitrogen dioxide.)

The majority report affirmed that if the Astoria plant did not conform to federal standards it would be closed. The minority report scoffed at this proposal, noting that it would be very difficult, both economically and politically, to close a \$370 million plant once it was operating.

Musicus was hopeful that a breakthrough would be made in pollution control. He said, "Every month this job is delayed adds 1% in escalation of costs, which the consumer is paying."¹⁵ The economics of the situation,

he urged, necessitated the building of an Astoria plant as quickly as possible, with the hope that the pollution problem would take care of itself.

Public Reaction

The report met with immediate public response. Private groups disagreed with the majority report's conclusions. The Citizen's for Clean Air proposed a law suit to enjoin the construction of an Astoria plant and suggested that Con Edison be managed by the American Electric Power Company (a holding company with operating subsidiaries in Michigan, Ohio, Indiana and Kentucky) or the Tennessee Valley Authority. The Tuberculosis and Respiratory Disease Association of New York said that emphysema had doubled in New York City in the last twenty years, and the increase of pollutants from Astoria would adversely affect chronic respiratory diseases. On the other hand, Chairman Luce ran advertisements in local newspapers, demonstrating Con Edison's need for media support to counter environmentalist pressures. The advertisements cited support from FPC and PSC and the approval of the Astoria Civic Association (the latter based on recreational site improvements).¹⁶

The only real public discussion, however, was held on WCBS-TV on August 16, 1960, at 11:30 A.M. Robert Kafin from Citizens for Clean Air debated Musicus. Musicus pointed out the unreliability and licensing difficulties associated with nuclear plants in the city. This left New York only the alternative of a fossil fuel plant to meet immediate power needs. He observed that Con Edison was not the only polluter in the

city. Kafin blamed the power shortage on the failure of "Big Allis," the new 1,000 MW Ravenswood plant. He suggested the continued outside purchase of 1,200 MW and maintenance of the old plants for the present. He criticized Con Edison's reliance on Astoria as the answer to the power needs; even as "Big Allis" had broken down, so could Astoria. He reminded Musicus that even the majority report acknowledged the pollution hazards that were involved.

Tom Stokes from the local group "Environment" questioned the concept of continued electrical power growth. He noted the difficulty a power company might have in telling its consumers to use less of its product. "Perhaps we should not just blandly accept this notion that we must have more and more power."¹⁷

The "Environmental Action Coalition" challenged Con Edison's contention that there were no alternatives. They instead recommended: (1) the limiting of new office building in the city (the World Trade Center would use as much electricity as the city of Schenectady with a population of 100,000); (2) changes in the rate schedule charging heavy users more per KW than light users; and (3) inhibition of overall growth in electric power.

Some local newspapers challenged the basis for the argument that more power was needed. The Daily Times Hamaroneck, noted that Europeans used one half the power Americans do. Perhaps the question to be considered, the paper asked, is not where to put the plant, but what limitations should be imposed on the use of power?¹⁸ Pete Hamill of the New York Post commented that not all of us use air conditioners, but all

of us use air. He agreed with the minority report of the ICPU that Con Edison had sufficient power and wanted Astoria solely to benefit the stockholders, who certainly did not live in Northwest Queens or the South Bronx.¹⁹

Numerous political leaders voiced opinions. Alvin Frankenberg, Councilman-at-large for Queens, used the opportunity to suggest that utilities should be absorbed by a governmental agency or be replaced by a regional power authority. He criticized Con Edison's overall performance, believing a major change in its management to be unavoidable.²⁰ Arthur J. Katzman, 13th Councilmanic District, asked the Mayor to hold public hearings. Peter Berle, State Assemblyman, 64th District, expressed similar feelings, and suggested a role for comprehensive planning in the energy field. The New Democratic Coalition urged postponement of a decision pending hearings.²¹ Congressional Representative Benjamin Rosenthal, a Democrat from Elmhurst, Queens, urged the Mayor to veto the Astoria project. He discounted the importance of air-conditioners in preference for unpoisoned air.²² Senator James Buckley voiced his disapproval of the Con Edison proposal also.²³ Democratic candidates for the governorship and the United States Senate, Arthur Goldberg and Congressman Richard Ottinger, challenged Con Edison's argument that inadequate power was due to environmentalists, delaying construction of upstate plants. The failure, they pointed out, was due to poor planning.²⁴ Equipment did not become obsolete suddenly. They accused Con Edison of taking advantage of current power crises to make a case for the Astoria project. Goldberg and Ottinger also blamed PSC for

its poor regulatory record. In twelve years ISC had allowed Con Edison to increase rates 16 times without one major review of its operating procedures.

An unusual concurrence of opinion among unlikely allies arose in support of Con Edison. The American Legion presented a petition supporting the Astoria expansion at the same time thirty Puerto Rican social, business, and civic organizations formed the Citizens Concerned with Cleaner Air and Adequate Electric Power. Both groups argued that power cuts hurt the minorities first, since industry might be convinced to leave the city, taking with it low-paying jobs.²⁵ Because of the absence of minority group ties to reform and liberal elements, minority groups did not see any advantage in supporting environmental issues. To maintain jobs in the city, an unusual temporary coalition emerged, consisting of established groups representing white business and labor together with black and Hispanic leaders.

The Mayor asked for additional opinions from state and federal agencies concerned with power and the environment after receiving the ICPU report. "I will carefully study this report and seek the further advice of governmental authorities at all levels - local, state and federal - in what indeed will be an extremely difficult decision."²⁶

Although Commissioner Henry Diamond of the State's Department of Environmental Conservation felt that power considerations were beyond his responsibility, he said Astoria would "...seriously jeopardize plans to meet air quality standards."²⁷ He reminded the Mayor that the Ravenswood, Astoria, Hell Gate, and 75th Street plants were all

located in a ten-square-mile area. FPC response to the Mayor was that "A sincere effort on the part of Con Edison can permit operation of the new Astoria units without creating an untenable air pollution problem."²⁸ The Mayor also asked Dr. Paul W. McCracken, Chairman of the Council of Economic Advisors in Washington, D.C., and a member of the National Domestic Council, to study the national energy crisis and develop a national clean air fuel policy.²⁹

Because the use of natural gas featured prominently in the ICPU Report, CEPA Administrator Kretchmer sought a meeting with federal Secretary of the Interior Walter Hickel to clarify the availability of gas. He received no firm commitment from the Secretary for a supply of natural gas. Con Edison was promised a quantity amounting to only one-eighth of its 1969 consumption.³⁰ Joseph Swidler, Chairman of the State Public Service Commission, claimed that the short supply of natural gas was due to a slowdown in the drilling for new wells because of a pricing dispute. He accused the U.S. Department of the Interior of leasing rights for wells in the Gulf of Mexico at too relaxed a pace.³¹

EPA Opinion

In response to Kretchmer's request to the National Air Pollution Control Administration (NAPCA) for more data, John T. Middleton, Commissioner of NAPCA sent Kretchmer a telegram.³² It restated the adverse conditions which would result from the expansion. Even with the use of low-sulfur content fuel, the harmful nitrogen oxides would remain. On August 17, 1970, Middleton wrote that health and welfare

would not be served by the Astoria construction.³³

The Mayor also asked Middleton for an evaluation of the Astoria plant, to be sent directly to him. Middleton replied on August 21, 1970. He stated, "Studies which have been conducted by Dr. Leonard Greenburg at the Albert Einstein School of Medicine, Yeshiva University, indicate that death directly attributable to air pollution has occurred in New York City."³⁴

On August 21, 1970, a report by Dr. Carl Shy, epidemiologist at NAPCA, was made public. It anticipated an increase of respiratory disease due to the Astoria expansion. He estimated the social cost at between \$250,000,000 to \$750,000,000. He explained that there were one million people in the direct emission area who could account for 340,000 days of disability per year. There were also no known means for controlling nitrogen oxide emissions, which would present an additional health hazard.

FSC Reaction

Harold L. Colbeth, Jr., Acting Director of the FSC Electric Division, also replied to the Mayor's advisory request. He observed that the pollution problem did not occur overnight. The production of electricity, being only one force, was necessary to raise and maintain the standard of living, especially of the poor. If industry lacked power, unemployment might increase. Concerning pollution, FSC claimed that the two new plants would release less sulfur oxide than the existing old plants. The increase contributed by the Astoria expansion would represent only

only a small addition of .01 pm. It was suggested that pollution be reduced in other major areas, specifically, in regard to incinerators, oil heating plants, automobile emissions, and particulate emissions from smokestacks. PSC recommended the use of processes to control sulfur emissions before they were emitted to the atmosphere. "From what we know of the natural gas situation, it would not be realistic to expect that the Astoria units could be fueled by natural gas."³⁵

Swidler announced that "...for a reasonable margin of safety, Con Edison should build both units at Astoria, using every possible measure to reduce pollution of the air."³⁶ PSC gave its approval for the Astoria units based on the power needs estimated for 1974.

The Mayor's Decision

On a hot summer's Saturday, August 22, 1970, the Mayor announced his decision. His "Solomon-like" decision reflected his reluctance to challenge the private sector (Con Edison and its supporters) perhaps because of his forthcoming Presidential bid which would require their campaign contributions. He also did not want to be blamed for the occurrence of a power shortage if he refused Con Edison permission to build additional facilities. In his statement, he remarked that disagreement had existed on every level of government. Federal and state power agencies supported the Astoria facility while agencies concerned with the environment were opposed. The Mayor commented that there were uncontrolled national and international forces competing with the city, which had the least resources and authority to deal with the situation. He noted that power

agencies said it was unlikely that the Astoria installation could be fueled by natural gas, but that since FPC had approved of the proposal, and they controlled natural gas, "...this represented a decision as much as an opinion."³⁷ Further, he suggested that pollution might be reduced from other sources, automobiles, for instance. This would reduce the danger point of emissions from the Astoria plant. The Mayor felt that the construction of an 800 MW plant, or one half the requested plant was consistent with the 1966 Memorandum of Understanding with Con Edison. It was decided that Con Edison would: (1) try to use natural gas or low-sulfur content fuels; (2) eliminate the use of coal-fueled plants by October 1971; (3) invest \$4 million in the research and development of anti-pollution techniques; and (4) convert the rest of the system to low-pollutant fuels. Besides the Astoria plant, by 1974 Con Edison would have 300 MW built outside the city. It was hoped that this capacity would meet the city's needs. The city also agreed to rent the use of transmission lines which would be built along the city-owned Croton aqueduct. This would increase Con Edison's ability to purchase power from the north.

The Agreement with Con Edison also expressed the need for a national energy policy. "The failure of national policy and national leadership in recent years has left us no alternatives with regard to the expansion of the Astoria plant - and in fact, with regard to the area of power generation in general, the Federal government has been sadly lacking... the policies of the FPC, in combination with those of the Department of Interior, deny us the fuel that would make it possible to eliminate

almost completely sulfur dioxide and particulate emissions, and make nitrous oxides controllable.... What stands in the way of both an adequate supply of power and cleaner air for New York and every city in the is not some technological obstacle, but the decisions that men make."³⁸

Public Reaction to the Mayor's Decision

Although Con Edison received approval to build only half the plant it requested (800 MW rather than 1,600 MW) the Company did not protest the decision. Nevertheless, Chairman Luce inquired of State DEC Commissioner Diamond where Con Edison would locate the 800 MW that was not provided for. Luce asked for the support of state and city officials in obtaining the "missing" 800 MW plant in the city or outside the city.³⁹ The city, as noted above, did agree to the construction of transmission lines along the city-owned Croton aqueduct to increase Con Edison's capacity to bring power into the city.

The New York Times supported the Mayor's proposal, especially with reference to tackling the automobile pollution problem. The Times urged the ban of cars below 59th Street during the day, a policy advanced also by the Citizens for Clean Air.⁴⁰ The Wall Street Journal noted that Con Edison's 12% total contribution to pollution was five times less than the contribution made by the automobile.⁴¹

Kretschmer made no public statement regarding the Mayor's decision. He did thank Dr. Middleton for his aid and support. "I am sure that we could not have achieved even this compromise without your help."⁴² The city EPA now found itself in a difficult position because, as a

part of the Administration, it could no longer publicly oppose the Mayor's decision. Although CEPA did not request it, NAPCA sent a reappraisal of the environmental effects of the proposed new 800 MW plant, which remained critical because of potential health effects.⁴³

Negative reaction to the Mayor's decision was widespread. Community leaders and environmental groups demanded public debate on the proposal. Commissioner Rickles voiced strong doubts that Con Edison would conform to the stringent new air code which was before the City Council.⁴⁴

Adverse reactions were expressed by Manhattan Borough President Percy Sutton and Manhattan Democratic Representative Edward Koch, both of whom demanded public hearings, since both their constituencies would be directly affected by the pollution from Astoria.⁴⁵ Koch demanded united action against the proposal. Queens Borough President Leviss voiced his first objections when he asked Con Edison to clarify (1) the amount of pollution that would be added by the Astoria plant, (2) the feasibility of the Verplanck and David's Island sites, (3) the possibility of purchased power and (4) the necessity to retire the old plants by 1974.⁴⁶

A meeting of Community Board #8 Manhattan, representing Manhattan's east side from 59th Street to 96th Street, was held September 23, 1970 at Hunter College. (Community boards were mandated by the 1976 New York City Charter to oversee certain decentralized social services). Con Edison and PSC both attended the meeting in order to allay the growing opposition.

Over thirteen months had passed since Luce's first letter to the Mayor proposing an Astoria plant. Yet the fervor was maintained in Astoria throughout the month of September. The Ad Hoc Crusade to Stop

Astoria, headed by Kevin Beuchler, organized demonstrations at the Astoria site on September 12th, 19th, 25th, and 26th. The candle-light vigil of the 26th was attended by Dr. Glen Paulson (an environmental scientist at Rockefeller University), Assemblyman Joseph Calabretta (Long Island City), Assemblyman Jules Sabbatino (Astoria) and Alvin Frankenberg (Councilman-at-Large).⁴⁷ They offered to hear a spokesman from Con Edison but were refused.⁴⁸ The citizens tried to keep the issue alive by distributing pamphlets, explaining their position, and soliciting political support. The political support that did emerge was primarily from areas which would be directly affected by the air pollution emitted from the Astoria plants.

PSC received heavy criticism from many sources. Even Mayor Lindsay admonished PSC for inaction. If Con Edison was short of power sources why had PSC not done anything about it. In an effort to recoup its sagging prestige, the PSC itself began hearings on the quality of electric service in the city.

Con Edison meanwhile tried to improve its political and public relations. Chairman Luce, speaking before the Queens Chamber of Commerce, pledged that Con Edison would consult with the community every step of the way. He proposed to use .37% sulfur fuel in sizeable quantities at Astoria (although Con Edison would be required to use such fuel by law after October 1, 1971). When asked about the sulfur content of fuel for the other plants, he maintained it would depend on the policy the city adopted for all fuel users.

Con Edison Vice-President Roddis attempted to spread his optimism

concerning the use of natural gas, although there were no visible signs from FPC that greater quantities would be released. Roddis said, "People in the gas industries and others are diligently working on the technical, economic and legislative shortcomings of LNG [Liquified natural gas] utilization."⁴⁹ (This possibility is still being explored, but there is no tangible evidence that even LNG will be available in the near future.)

The Manton Bill

The first major effort to halt the Astoria plant expansion was initiated by Councilman Thomas Manton, representing the communities of Astoria, Long Island City, Woodside, Maspeth, and Sunnyside. Con Edison and air pollution were popular issues in the community, and Manton took this into account (one reason being that he had Congressional aspirations). On October 14, 1970, he introduced a bill into the City Council prohibiting the use of new fossil-fuel burning generators of over twenty MW capacity. The penalties were to be \$1,000 or/and one year imprisonment. "This local law shall not apply to the operation of any fossil fuel burning electric generator capable of generating twenty MW or more of electrical power, which had been in active operation within the City as of October 1, 1970."⁵⁰ The Manton bill was, of course, an attempt to ban the construction of any new power plants in the city. Manton argued with critics of the bill who asked why other communities should receive New York's pollution from electrical power generation. He replied people who resided in suburbia and worked in New York City benefited from the quality of life in the city. Their property value

was enhanced because of its accessibility to the cultural, vocational, and financial attributes of the City. Two million lives in Queens would be affected by the plant, while an upstate plant would affect fewer people, and affect them less severely.

The bill could not be forced out of the Environmental Protection Committee of the Council for a vote on the Council floor, and was never voted upon. Manton counted 19 potential votes in favor of the bill - a passing vote - but he needed 25 votes if the Mayor vetoed it. If passed, the bill would have been a slap in the Mayor's face, since he had approved construction of Astoria #6 - an 800 MW facility. The Mayor rarely vetoes Council bills because he does not want to antagonize a segment of his constituency, and he usually does not have to use veto power because of his special influence on the Council. The Majority Leader of the Council and the Mayor have a cooperative relationship, the former dealing directly with the Mayor on Council matters. The Mayor therefore has direct input into Council activities through the Majority Leader, who controls patronage for Councilmen, influences the appointment of committee chairmen, and controls the movement of bills from committee to the Council floor.

Manton explained that the failure of the Council to take action on his bill was due to a lack of support from councilmen with constituencies not directly affected by the pollution from the Astoria plant, and who were more sensitive to industry and Con Edison views which argued that a power shortage was the overriding danger. The Manton bill represented an attack on both Council leadership and the

Mayor. The fact that the Manton bill did not get to the floor for a vote, although Manton personally counted enough votes for success, indicated both substantial opposition and noninterest. Manton could only count on support from Councilmen whose districts were directly involved and a few liberals who supported environmental interests at the time of reckoning. The Majority Leader, with all his political influence, had no need to apply pressure because he had no constituent interests to satisfy on this matter. He also had no need to jeopardize his own relationship with the Mayor. Another influential Councilman, Donald Manes of Queens, was absent from the Committee vote after he promised support. Matthew Troy of Queens, who was not shy about taking on the Mayor on other issues, gave only lip service to Manton's efforts.

Council Hearings

Hearings on the Manton bill in the City Council, November 18, 1970, produced heated controversy. Many community and environmental groups testified to the dangers of building a power plant in the most highly polluted area of the city. Kenneth Johnson, NAFCA, reminded the city that it must drastically reduce sulfur oxide emissions from existing sources in order to meet federal standards by 1974. The Astoria plant would only make that task more difficult.⁵¹ The Astoria Crusade Against Con Edison Expansion testified that the group would never accept the plant. The Medical Society of Kings' County suggested finding alternatives without polluting the environment. Manhattan Borough President Percy Sutton and Congressman William Ryan expressed opposition to the

proposal also. Ryan criticized the Mayor for not having a public hearing before the decision was made. He condemned Con Edison for giving greater weight to cost and convenience than to the consequences of air pollution.⁵²

The New York Chamber of Commerce emphasized the power needs of the city. Since the industrial basis of the city is dependent upon adequate power for subways, new office buildings, hospitals, housing and urban renewal, the Chamber of Commerce was naturally concerned about industries leaving the city.⁵³ The Downtown-Lower Manhattan Association, Incorporated, expressed the greatest concern over power shortages.⁵⁴ The Queens Chamber of Commerce and the Brooklyn Chamber of Commerce were also opposed to the Manton bill: "Meantime we must keep light on, the subways running and all of our vital machines functioning."⁵⁵

William Wall, Vice-President of Con Edison, attacked the bill because of its haphazard approach. He pointed out that the bill forbade construction of new power plants but not new buildings, nor new cars, nor new incinerators, all of which require more power. It also implied, he charged, the shutting down of 451 MW of gas turbine generators as well as the entire Ravenswood plant. He retraced Con Edison's decision to build an Astoria facility, beginning in mid-1969, when city officials were first consulted. Wall noted the approval Con Edison received from FPC and PSC for their Ten Year Plan and from the independent study group headed by David Lillienthal, under city auspices. He defended Con Edison's record on pollution reduction. Since 1966 Con Edison's contribution of sulfur oxides and particulates had been reduced by over one half. Regarding thermal pollution, a study of the East River by Quirk,

Lawler and Matusky, Environmental Science and Engineering Consultants and Oceanographic Analysts, reported that New York State thermal criteria would be met.⁵⁶

Con Edison viewed the hearings as a public theater. Pat Fogarty of the Public Relations Department at Con Edison felt that the City Council was not really interested in hearing Con Edison's point of view. Vice-President Wall had been rushed in and out, and councilmen were only interested in demonstrating their own concern for the environment in front of their constituents.

Con Edison Proceeds to Build

On December 9, 1970, Con Edison filed an application for a discharge permit from the New York State Water Resources Department (Permit 9-60-70). According to William Wall (in his City Council testimony), construction had already begun on access roads, borings, and the relocation of lines. Order "ME-6960M-Astoria Generating Station #6" included the installation of one 800 MW turbogenerator unit with steam generator equipped to fire both oil and gas. (The total estimated cost was \$209,226,000, although later estimates were \$100,000,000 higher). Con Edison maintained that speed was important to the completion of Astoria, and they would not wait for permits to be approved before beginning construction. "We do not believe that the provisions...apply to Astoria 6, filed just to avoid questions which might delay progress...It is our opinion that such work in any event does not require a discharge permit."⁵⁷ With certain permits lacking, Con Edison announced that excavation had begun

on February 16, 1971.⁵⁸ (According to the testimony of Wall, work actually began in 1970). Aware that Con Edison had begun construction without the necessary State permits, DEC Commissioner Diamond replied that Con Edison was proceeding at its own risk and requested more information from them on thermal discharge as a basis for granting the permit.⁵⁹ However, the State Department of Environmental Conservation approved the permit on March 25, 1971. DEC stated that water quality would not be contravened.

The New York City Department of Ports and Terminals also required a permit - for the construction of foundations. The Department asked the Army Corps of Engineers to hold up Con Edison's application to the Corps until Ports and Terminals issued its own permit.⁶⁰ The permit was issued in early April 1971.

The Army Corps of Engineers invoked the provisions of the National Environment Quality Act of 1969, delaying for thirty days the issuance of any construction permit until an environmental impact statement was received. The Astoria plant required the dredging and building of inflow and outflow pipes, and it is in the jurisdiction of the Corps to approve any construction on navigable waters. The Department of Interior's Bureau of Fish and Wildlife asked for an environmental statement and more time for reviews,⁶¹ as did the Water Quality Office of the federal EPA.⁶² The environmental impact statement included five questions concerning: (1) the probable impact upon the environment; (2) the probable adverse and unavoidable effects; (3) the relationship between local short-term users of the environment and maintenance of long-term productivity;

(4) alternatives to action; and (5) irreversible commitments of resources involved in the proposed expansion.⁶³ The Corps understood that Con Edison would be raising the temperature of the East River by 15⁰ and was concerned with the effects on marine life. Con Edison agreed to change the discharge surface to one with a 300 foot periphery near the waterline in an effort to lessen the effect of thermal discharge.

Army Corps of Engineers Hearings

Upon receiving the environmental impact statement from Con Edison, and upon receiving many requests from private and government sources, the Corps held open hearings.⁶⁴ Charles Luce appeared personally at the Corps hearings on March 22 and 23, 1972, which took place at a public school in Astoria, Queens. He stated that the Company already had spent a considerable sum of money, which would be lost if the Astoria #6 plant were not approved. He reiterated earlier statements that Con Edison's primary obligation is to provide adequate power to its customers. Moreover, if power failures were recurrent, industry would leave the city, with a disastrous impact upon the job market. He noted that growing power demands required 450,000 MW of new generating power per year. "...We have to put these plants somewhere and nobody likes them right next door."⁶⁵ He also pointed out that with the lower sulfur-content fuel oil which would be used, emissions from the proposed plant would be lower as well.

Other supporters of Con Edison at the Corps hearings also emphasized economic factors and the relationship of electric power to employment

opportunities. The President of the Central Labor Council of the AFL-CIO, Harry Van Arsdale, warned of seeking Canadian power as an unreliable alternative, since foreign policy relations could easily change. He also commended Con Edison's policy of minority recruitment. Roger Starr, Executive Director of the Citizen's Housing and Planning Council of New York, urged that the poor be given greater opportunity to acquire the appliances which the rich already possessed. Other groups supporting the Astoria proposal were the New York Chamber of Commerce, New York City Transit Authority, Department of Labor Migration of the Commonwealth of Puerto Rico, Phelps Dodge Cable and Wire Co., Queens Chamber of Commerce, Association for a Better New York and the Real Estate Board of New York, Inc. Their overriding concern was with maintaining a healthy economic environment and preventing power shortages due to inadequate generating capacity. Real estate and construction industry representatives maintained that new office space required increased power for air conditioners, elevators, lighting, and office equipment. They contended that the benefits of the new Astoria plant would accrue to all in the form of additional real estate tax revenues and the creation of more jobs.

Testifying in opposition to the Con Edison proposal were elected officials, representatives of environmental groups, local citizens and community planning boards. They were concerned that Astoria would worsen air pollution in an area where the emphysema rate was already the highest in the nation and where 30% of the local children suffered from respiratory ailments. Congressman Badillo argued that people must first

be alive before they can be employed. Peter Kahn, speaking for a number of public interest groups, stated that Con Edison could not be trusted since it had already violated part of the 1970 Memorandum of Understanding with the City by burning fuel with a sulfur content surpassing the agreed-upon limitations and burning coal at the Arthur Kill plant during a pollution alert. Kahn questioned Con Edison's intention to burn natural gas 10% of the time at Astoria #6 when PSC had stated that no additional supplies of natural gas would be available. Kahn also took issue with Con Edison's reserve estimate requirements, which he alleged were inflated. He also queried whether the statement that additional power created more jobs had any validity since, as the demand for electric power had increased, so had the rate of unemployment. Testimony at the hearings changed the mind of John Tracy, representing the Steamfitters Local Union #638. He stated that his union had asked him to speak for the expansion of Astoria, but he was now personally opposed to the project on grounds of public health.

The hearings took two days and gave the community an opportunity to voice its opinion, which had no effect on events. The testimony was evaluated by the Corps, which concluded that it now had a basis for the issuance of construction and discharge permits to Con Edison.

Once Con Edison began construction of Astoria #6 with governmental approval, the question of city regulation fell into obscurity. Nevertheless, the fate of the Astoria #6 plant took an ironic twist. Because of financial problems, on April 5, 1974, Con Edison announced that it had offered to sell the partially completed plant to the Power Authority of

the State of New York (PASNY). Discussions with the State regarding such a sale had been held as far back as 1971, but the reasons given then had been problems with environmental opposition to new power plant sites. In 1974, Con Edison explained that cash shortages due to high fuel costs could not be immediately recovered, and an increase in overdue accounts receivable forced Con Edison to abandon the project. From 1967 to 1973, Con Edison reported that its outstanding uncollected bills rose from \$2.2 million to \$3.4 million for bills over six months old.⁶⁶ Con Edison also had approximately \$2.8 billion in capital bonds outstanding, which had forced it to issue new bonds at the highest interest rates being charged to a utility since investor confidence had declined. On April 23, 1974, Luce announced he would suspend its quarterly dividend for the first time in the company's history.

The necessary legislation for PASNY to acquire Astoria #6 (as well as Indian Point #3, which was purchased simultaneously) was passed by the New York State Legislature on May 17, 1974. It authorized the Authority to "Acquire and complete" facilities in New York City or Westchester County "to assist in maintaining an adequate and dependable supply of electricity by supplying power and energy for the New York Transit Authority, the Port Authority of New York and New Jersey, the City of New York, the State of New York, the United States, other public corporations and electric corporations within the metropolitan area of the City of New York...."⁶⁷ As of 1977, 76 government agencies have applied for power.⁶⁸

The final sale to PASNY took place on December 13, 1974. The price

PASNY paid for the Astoria #6 plant was \$226,461,352, which represented the amount Con Edison had already spent on the plant. The sale was financed by the sale of PASNY revenue bonds to the general public, since PASNY is prohibited from using tax money for projects. Con Edison may purchase up to 25% of the power produced at Astoria #6 in return for a Con Edison commitment to make available to PASNY transmission and distribution lines. Astoria #6 finally began generating electricity on February 12, 1977. The plant for which Con Edison fought so adamantly is now being run by a state authority producing electricity at a cost lower than Con Edison could offer. Electric power shortages envisioned by Con Edison for 1974 never materialized, even without Astoria #6 being operational. Between late 1973 and mid 1974 actual consumption was below Con Edison estimates made prior to the Arab embargo, due in part to an increase in the price of electricity and conservation measures.

The events occurring during the period between 1969 and 1972 represent an interface between the private and public sector. Decisions by governmental authorities were made in response to action taken by a private utility. The Mayor's "Solomon-like" decision was an attempt to please both environmentalists and power adherents. What originally appeared as a routine decision-making situation became a major controversy for the actors involved and for the City of New York.

CHAPTER IV

FOOTNOTES

¹Regional Energy Consumption, A Joint Study by the Regional Plan Association, Resources for the Future, 1974, p. 11.

²Con Edison System Planning Department, May 28, 1970.

³Memorandum of Understanding between Con Edison and the City of New York, 1966.

⁴New York City's Power Supply, Development and Resources Corporation, October 28, 1969, p. 21.

⁵Letter to Mayor John Lindsay from DAR Commissioner, Austin Heller, October 1, 1969.

⁶Ibid., p. 2.

⁷Long Island Press, May 6, 1970.

⁸Queens Ledger, Maspeth, New York, August 6, 1970.

⁹New York Times, August 4, 1970.

¹⁰Neil Fabricant and Robert Marshall Hallman, Toward a Rational Power Policy, (New York: Braziller, 1971), p. 207.

¹¹Letter from Louis Roddis, Vice President, Con Edison, to Mr. Musicus, June 12, 1970.

¹²Letter from Donald F. Walters to Kenneth Johnson, June 17, 1970.

¹³Statement by William S. Baker, Program Adviser, Air Pollution Control Office, EPA, March 6, 1971.

- ¹⁴New York Post, August 3, 1970.
- ¹⁵New York Times, August 4, 1970.
- ¹⁶Daily News, August 6, 1970.
- ¹⁷New York Post, August 12, 1970.
- ¹⁸Daily Times, Mamaroneck, August 13, 1970.
- ¹⁹New York Post, August 18, 1970.
- ²⁰Long Island Press, August 18, 1970.
- ²¹Long Island Press, August 21, 1970.
- ²²Long Island Press, August 22, 1970.
- ²³Long Island Press, August 21, 1970.
- ²⁴Joint Statement by Arthur Goldberg and Richard Ottinger, August 14, 1970.
- ²⁵New York Times, August 11, 1970.
- ²⁶Statement by Mayor John Lindsay, August 2, 1970.
- ²⁷Letter to Chairman Charles Luce from DEC Commissioner Henry Diamond, August 18, 1970.
- ²⁸Comments by FPC Bureau of Power on ICPU Report on Astoria Plant, August 12, 1970.
- ²⁹Long Island Press, August 14, 1970.
- ³⁰New York Times, August 6, 1970.
- ³¹New York Times, August 10, 1970.
- ³²New York Times, August 11, 1970.

³³Statement of William S. Baker, Program Advisor, NAPCA, EPA, March 6, 1971.

³⁴Ibid.

³⁵Staff Report, PSC, prepared by Harold L. Colbeth, Jr., August 18, 1970.

³⁶Letter from PSC Chairman Joseph Swidler to Mayor John Lindsay, August 18, 1970.

³⁷Statement of Mayor John Lindsay, August 22, 1970.

³⁸Ibid.

³⁹Letter from Chairman Luce, Con Edison to DEC Commissioner Diamond, August 28, 1970.

⁴⁰New York Times, August 23, 1970.

⁴¹Wall Street Journal, August 24, 1970.

⁴²Letter from CEPA Administrator Kretchmer to Dr. Middleton, NAPCA, September 8, 1970.

⁴³Remarks of Kenneth L. Johnson, Regional Director, NAPCA.

⁴⁴Daily News, August 24, 1970.

⁴⁵New York Times, August 25, 1970.

⁴⁶Leader-Observer, August 27, 1970.

⁴⁷Long Island Press, September 27, 1970.

⁴⁸Letter from Kevin Beuchler to Councilman Thomas Manton, December 8, 1970.

⁴⁹Statement of Louis Roddis before the 5th Annual Symposium on Air Pollution and Respiratory Diseases, New York City Medical Center, New York City, October 23, 1969.

⁵⁰Intro No. 380, Proposed Amendment to Section c 19-11.1c, New York City Administrative Code.

⁵¹Long Island Press, November 19, 1970.

⁵²Statement of William F. Ryan, New York City Council, November 18, 1970.

⁵³Statement of New York Chamber of Commerce, New York City Council, November 18, 1970.

⁵⁴Statement of Charles W. Merrit, Downtown-Lower Manhattan Association, Incorporated, New York City Council, November 18, 1970.

⁵⁵Long Island Press, November 19, 1970.

⁵⁶Statement of William Wall, New York City Council, November 18, 1970.

⁵⁷Telegram to DEC Commissioner Diamond from Con Edison, December 12, 1970.

⁵⁸Con Edison Monthly Report on Generation and Transmission, PSC Case 25293, December 12, 1970.

⁵⁹Telegram to Harry Woodbury, Vice-President, Con Edison from DEC Commissioner Diamond, February 11, 1971.

⁶⁰Letter from Jacob Gelberman, Chief of Operations, Army Corps of Engineers to Con Edison, February 9, 1971.

⁶¹Letter to the District Engineer from Richard E. Griffith, Regional Director of the Bureau of Fisheries and Wildlife, February 23, 1971.

⁶²Letter to the WQO from Jacob Gelberman acknowledging request, February 19, 1971.

⁶³Long Island Press, February 18, 1971.

⁶⁴Letters from Eldon Elingan, Minority Leader of the City Council, February 17, 1971, Richard Madigan, Director of Center for Environmental Studies, February 18, 1971 and Franz Leichter, Assemblyman, 69th District, February 19, 1971.

CHAPTER V

CASE STUDY: THE 1973-1974 FUEL CRISIS

This second case again demonstrates the interaction of private and public forces involved in energy and environmental politics. The impetus for action by the private utility coincided with crisis developments on the national level. Because of the oil shortage during the fall of 1973, pressure for the relaxation of environmental standards reached the public's attention. Oil companies, industrialists, and utilities which had earlier opposed laws and regulations protecting the environment again raised their voices in loud protest when the Arab embargo of oil took effect. President Nixon announced that steps to relax standards would be taken to avert a serious energy crisis. His specific proposals were those that environmentalists had been opposing for years: an expediting of the licensing of nuclear power plants; authorization of the trans-Alaskan pipeline; and the construction of deep-water ports for super-tankers.

The Crisis Emerges

In New York City, the first sign of local crisis appeared when Milton Musicus, Chairman of the Mayor's Interdepartmental Committee on Public Utilities (ICPU), in a joint telegram with seven northeastern States, asked President Nixon for mandatory fuel oil allocations to protect them against any impending fuel shortages.

During the period September 1973 through March 1974, with which we are concerned here, Con Edison's oil suppliers did not meet delivery schedules, did not provide required volumes of conforming oil, and did increase prices. Con Edison put these facts to use to alter long term environmental regulatory policies. By mid 1974 those facts no longer prevailed; deliveries were guaranteed by oil companies to meet contractual obligations and the price of oil had stabilized.

Con Edison exaggerated the long term impact of these facts. Moreover, Con Edison failed to reveal the full extent of their storage supplies.

Interest groups such as Clean Air Incorporated wrote to John Love, Director of the Federal Energy Policy Office, to explore alternatives other than the relaxation of air quality standards. Environmental interest groups suggested, if a shortage actually materialized, that low-sulfur fuel be allocated to New York City because of its dense population and its difficulty in meeting present air quality standards.

In October 1973, Con Edison announced that its suppliers could no longer meet their contractual obligations but could supply, at the same price, higher-sulfur fuel, which was forbidden by the City Air Code and the New York State Implementation Plan in that such fuel did not meet requirements of the Clean Air Act of 1970.*

Con Edison Board Chairman Charles Luce threatened that "draconian" measures would have to be taken unless high-sulfur fuel were permitted.¹ Con Edison asked the President's Energy Policy Office for strong federal leadership, including mandatory allocation of all fuels, suspension of sulfur restrictions and conservation measures (i.e., national auto speed limits, extension of daylight saving time, and limits on space heating temperature). Con Edison also suggested that the Federal Power Commission (FPC) remove restrictions on the use of natural gas by utilities.²

*In a report on September 20, 1973, from Con Edison Vice-President Bertram Schwartz to Alan Roth of the PSC, Con Edison stated that the New England Petroleum Company (NEPCO) declared a force majeure but could meet obligations if they were allowed to pass on the higher prices needed to substitute Libyan oil.

Before any state action could be taken by the Department of Environmental Conservation (DEC), the Public Service Commission (PSC) had to issue a certification of insufficiency of fuel supply. The DEC wished to hold hearings on Con Edison's formal application to determine the fuel supply situation and whether a variance should be granted for that part of the State Implementation Plan regulating the sulfur content of fuel. DEC requested permission from the federal Environmental Protection Agency (EPA) to hold hearings within 10 days instead of the 30-day normal requirement, because of the impending crisis.³ EPA stated that any variance issued by a state was considered a revision of the State Implementation Plan and was subject to EPA approval. (Otherwise it would not be subject to enforcement and the states would be subject to citizen suits.) EPA stressed that all other reasonable measures must be taken before any variance could be granted on the basis of need. Deputy Regional Administrator of EPA, Eric Outwater, reluctantly told Deputy DEC Commissioner James Biggane that he would approve a public notice period of 10 days if he were assured that adequate publicity would be given.⁴

Con Edison Petitions the City and State

Con Edison's formal petition was filed on October 26, 1973. It requested permission to purchase, store, and use fuel oil with a higher sulfur content than that permitted in the City Air Code if conforming fuel was unavailable. Con Edison also requested a six-month variance from sections of the Air Code to allow it to purchase, store, and burn

coal (with no sulfur content restrictions) at Ravenswood Boiler #30 and Arthur Kill Boiler #30, if residual fuel oil supply were unreliable.* Meanwhile, Con Edison contacted the President's office through John Love, informing him of its intention to burn coal.⁵ Con Edison wanted mandatory allocation of all fuel oils accompanied by relaxation of restrictions on the use of high-sulfur fuels by utilities. Con Edison's Vice-President Harry Woodbury explained to the city that suppliers were finding difficulty meeting their commitments because of Libya's nationalization of wells owned by Standard Oil of California (SOCAL), which he said supplied the New England Petroleum Company (NEPCO), Con Edison's major supplier. Amerada Hess Corporation, its second major supplier, also seemed to be affected by the embargo. About 60% of Con Edison's crude fuel originated in the Middle East and Africa. To offset those adverse effects, Con Edison promised to (1) purchase the lowest sulfur residual fuel reasonably available, and (2) enforce fuel conservation measures imposed by the city and state.⁶

Con Edison also had to apply to New York State for exemption from Section 225.2(b) of the State Air Pollution Control Code to permit the

*Administrative Code of the City of New York, Chapter 57, Part II.

Section 1403 2-9.07(c)
" 2-9.09(a)(2)
" 2-11.05(a)
" 2-11.05(b)(1)
" 2-13.03(d)
" 2-13.09(a)(2)
" 2-13.09(b)
" 2-9.03(a)

burning of high-sulfur fuel. In exchange for PSC certification for insufficiency of low-sulfur residual oil and coal, Luce made similar promises to the state. However, Con Edison said it would use coal only when it believed adequate supplies of residual oil were unavailable. "Because of the difficulties and costs in estimating a coal supply line, we would anticipate the continual use of coal, once instituted, until the oil emergency is abated and thereafter until our contracted supplies can be discontinued without undue cost to our consumers, provided that such use beyond the emergency does not impair the maintenance of ambient air quality standards."⁷ According to Con Edison, the Ravenswood and Arthur Kill locations were chosen because of their high stacks, the short conversion time required (at Ravenswood), and the efficient electrostatic precipitator (at Arthur Kill). Luce, asked, however, that Con Edison be able to recover from PSC "the substantial capital and operating costs associated with coal burning."⁸

With 12 days of public notice, the hearings were held on November 12, 1973, at 2 World Trade Center. They were conducted jointly by PSC, and DEC, with the federal EPA participating.

The Hearings for the Variance

Joint hearings were decided upon by DEC, PSC, and CEPA in order to maximize knowledge and avoid duplication. Bertram Schwartz, Con Edison Vice-President in charge of Fuel Supply and Planning, explained that the company was finding it impossible to obtain .3% sulfur content residual fuel oil because of the Middle East boycott. Amerada Hess Corp.

which supplied 22% of Con Edison's needs, would only be able to deliver 1.2% to 1.3% sulfur content oil. Texaco, supplying 9% of Con Edison's needs, planned to reduce deliveries by 30% in November. Schwartz told the hearing officers that, even with the use of non-conforming oil, there would be a shortfall which necessitated the use of coal at two of its plants. Testimony from Leon Hess, head of Amerada Hess Corp., supported Con Edison's contentions. Hess warned of possible shortages of even high-sulfur fuel if the embargo were not ended. Con Edison also claimed it could only obtain non-conforming high-sulfur coal but would try to increase precipitator efficiency where it was used. He explained that coal, if allowed, would have to be used on a continuing basis. "The discontinuance of coal, once established, will be costly to our consumers."⁹ He admitted that there was no desulfurization equipment at either of the plants and that the precipitator at one of them was not working up to design capacity. Schwartz threatened that if the situation worsened, Con Edison would have to ask for mandatory daylight saving time, a mandatory lowering of thermostats, mandatory prohibition of advertising and decorative lighting, and the reduction of heat in subway cars to 40°.

Industrial and commercial interests as well as real estate groups and some civic organizations gave Con Edison their support. Burton D. Hunter, Committee for an Adequate Supply of Energy,¹⁰ argued that since their goal was to preserve New York City as a commercial and industrial center, it was of utmost importance that jobs be provided and that the standard of living of its residents and the security of its investors

be maintained. In order to accomplish this, environmental standards had to be sacrificed.

Opposition to Con Edison's application centered around two general themes: (1) the impact upon air quality, and (2) whether conservation measures should not be implemented before any variance was considered. John Russel, Special Assistant to the Commissioner of the New York City Department of Health, warned of severe health implications resulting from the use of high-sulfur fuels. Dr. Bernard Goldstein, representing the Scientists Committee for Public Information (SCPI), stated that there were 10,000 excess deaths in the metropolitan area related to sulfur dioxide during the period from 1962 to 1966. Dr. Edward Ferrand, Director of Technical Services, DAR, supported this contention, saying that Con Edison's contribution of sulfur dioxide was significant enough to affect health. Although Con Edison argued that its high stacks increased dispersion of emissions, Ferrand explained that they also increased the formation of sulfates - especially if coal were being used, which increased the level of particulates. A high particulate level in combination with sulfates had a more harmful effect upon the respiratory system than either emission by itself.

John Russel suggested that, before any variance was granted, conservation measures be implemented to ascertain the quantity of fuel which could be saved, thereby reducing Con Edison's overall demand for fuel. State Attorney General Louis Lefkowitz agreed, suggesting a 60-day delay for the application while statewide conservation measures were being implemented. Clean Air, Inc., introduced a comprehensive

conservation plan for the city, including the establishment of government mechanisms for continued citizen participation in the implementation of energy conservation measures. It also advocated increased federal government support for mass transit. Its director, Marcy Benstock, explained that the issue should not be whether or not to grant Con Edison a variance, but the types of conservation measures to be effected.

Brooklyn State Senator, Carol Bellamy insisted that, before sulfur standards were relaxed, the burden of proof to justify such an action must fall upon Con Edison. The utility, she said, should also make available to the government shortfall projections, proof that it had sought oil unsuccessfully from other contractors, and evidence that attempts had been made to increase purchased power, efficiency of pollution devices, and the amount of energy saved through conservation measures. Other conditions suggested for incorporation into a possible variance were: (1) Federal allocations of low-sulfur fuel to urban polluted areas on a priority basis; (2) brown-outs to be allowed prior to the use of high-sulfur fuels; (3) Con Edison customers to commence mandatory conservation measures; (4) only low-sulfur coal to be permitted; (5) Con Edison to demonstrate why the sulfur recovery system as used in Japan could not be employed; (6) a variance time period of four months; and (7) Con Edison to purchase the lowest sulfur content fuel oil wherever available, rather than where reasonably available, as suggested by Con Edison.¹¹ EPA Deputy Regional Administrator Eric Outwater recommended that any variance granted should be viewed only as a short-term measure, and that plans be devised to prevent further

emergencies from occurring.

Of course, some individuals felt that the entire East Coast oil shortage was being manipulated by the oil monopolies to create scarcity during a period when Con Edison's profits were up 20%.¹² It was suggested that oil and coal companies would use the crisis to obtain objectives they had been pressuring for in the past, that is, the relaxation of air quality standards and, by dramatizing short-run crises, the maintenance of high long-term demand until demand could be filled by new and more profitable nuclear plants.¹³

The Governmental Response: CEPA

Because CEPA believed Con Edison had over-estimated the oil shortage, the City's response to its application for a variance was more marked than that of either the State or federal government. The City's estimate of Con Edison's shortfall was 3 million barrels, rather than the 4.2 million estimated by Con Edison for the period November 1, 1973, to March 31, 1974. CEPA appreciated the uncertainties owing to diverse actions the federal government might take, as well as the unpredictable effects of energy conservation measures and weather conditions on energy demand. CEPA felt it must take some action to forestall fuel shortages because of the absence of any direction from Congress or the Energy Policy Office. The City decided on November 19, 1973, to grant Con Edison a variance (to Section 1403.-2-3.11 of the Air Code) for six months, in effect, to allow the burning of up to 3 million barrels of residual oil exceeding Air Code limitations for sulfur content. In

return, Con Edison must use all possible remedies - including legal suits against any supplier who failed to meet its contractual obligations - and report the status of those actions and possible litigation to the Administrator of CEPA not later than December 20, 1973.

The City denied Con Edison's request to burn coal at Ravenswood #30 and Arthur Kill #30, believing that shortages could be filled by non-conforming oil. Moreover, the City felt that the federal government was close to authorizing the switch to coal by utilities. (EPA had testified that the metropolitan area would be the last to convert because of its inability to meet ambient air quality standards). By burning merely non-conforming fuel oil and no coal, Department of Air Resources Commissioner Fred Hart expected sulfur dioxide pollution to increase by 10%.

Con Edison's reaction to the City's decision was sharp and angry. Luce said CEPA was "playing Russian roulette with its electric power supply."¹⁵ Con Edison announced it was going ahead with its coal conversion program before the State issued its ruling.¹⁶ Vice-President Bertram Schwartz explained that it was necessary to stockpile coal immediately because the market was unstable. Con Edison hoped the State would rule favorably, making it possible to appeal the City's objections before a special panel or the courts.¹⁷ To emphasize its position, Con Edison informed PSC that, if their application for coal were rejected, the utility was prepared to cut heat on subways and blackout selected areas of the city.¹⁸

The PSC Certification

On November 23, 1973, PSC issued a certification of fuel insufficiency for both conforming and non-conforming residual oil for the period ending March 31, 1974, and for conforming coal (at Arthur Kill #30 and Ravenswood #30) for the period ending December 12, 1974. PSC said it based its decision on the November hearings, on facts presented by Con Edison in its application, on additional information submitted in response to questions raised at the hearings, and on public information. Because of curtailments of anticipated deliveries, Con Edison estimated its shortfall at a minimum 4.2 million barrels of conforming oil and 2.1 million barrels of non-conforming oil even if the sulfur restrictions were lifted. According to Con Edison testimony, conservation efforts could save as much as 2 million barrels during the period of the variance. PSC concluded that, although low-sulfur fuel might become available, the possibility of shortages did threaten reliable electric power generation, resulting in the reserve storage being used up in 2 months, with resulting black-outs and threats to the health and safety of the City. PSC recommended the reconversion of Arthur Kill #30 and Ravenswood #30 to coal as quickly as possible. Because coal companies require long-term contracts, Con Edison would need to burn coal for at least a period of one year. PSC appreciated the effect of burning non-conforming fuel on air quality, but felt that health aspects must be balanced with the special and economic effects of rotating neighborhood blackouts. Conditional to the variances recommended by PSC, Con Edison was informed that it must (1) pursue its

contractual arrangements with its suppliers regarding committed volumes, grades and values of oil; (2) make efforts to obtain conforming oil to meet its needs; (3) transfer any savings incurred through the use of non-conforming fuel to its customers; (4) encourage conservation measures in its own operations and among its consumers; (5) attempt to increase the purchase of power from outside sources; (6) end the use of coal when adequate supplies of conforming fuel became available and its coal supplies became exhausted, and (?) make monthly reports to PSC and DEC Commissioners during the period of the variances regarding implementation of the above conditions.¹⁹

The DEC Decision

Four days after PSC issued its certification of fuel insufficiency, DEC announced its own decision. Sulfur restrictions were to be relaxed to permit a maximum of 1.5% sulfur content for oil and a 1.0 lb per million BTU ceiling sulfur content for coal, with an ash content of not more than 15%. Limits on oil would be increased to 3% sulfur content and on coal, 2.5 lbs. of sulfur per million BTU if supplies meeting the more stringent requirements could not be obtained. The reasons cited for this decision were similar to the evidence presented by Con Edison at the November hearings, and to the evidence that had served as a basis for the PSC certification of fuel insufficiency: (1) the nature of most of Con Edison's imported fuel supply; (2) deterioration of the international situation; (3) the possibility of a severe winter; (4) the possibility of FPC termination of natural gas supplies to utilities, thereby increasing demand for oil.

(5) lack of firm commitments for the purchase of power; and (5) outages on Con Edison's nuclear plants. DEC Commissioner Biggane emphasized the difficulty of making a decision which would increase the levels of SO₂ and particulate pollution.

Pursuant to the variance to burn coal, Con Edison was instructed to obtain low-sulfur coal and install pollution control devices. If the use of coal were required after March 31, 1974, DEC would require the installation of stack gas "scrubbers." The conditions imposed on Con Edison by the DEC variance included those recommended by PSC, and in addition, required Con Edison to: (1) issue a plan within 30 days for the installation of stack gas sulfur removal for its oil burning plants; (2) present a plan within 60 days for the use of solid waste as a fuel; (3) increase base load generation capacity of its nuclear plants; (4) file a revised action plan within 30 days including contingency steps in the event of short-term air pollution emergencies - such as switching back to low-sulfur fuel, load shedding, purchasing of power, and discontinuance of the use of coal; (5) provide tests of particulate emissions at Ravenswood #30 and Arthur Kill #30 within 30 days of conversion to coal; (6) make monthly reports on grade, quantity, and sulfur content of fuel received and burned; and (7) provide monthly air quality data and/or evaluation of the impact of the use of non-conforming fuels and any other data that may be subsequently required. The agreement also specified that any federal action would take precedence over any section of the variance.

In effect, DEC concluded "the possible consequences of a massive

shortage of fuel oil for the people of the City of New York are periodic blackouts, four-day work weeks, and reduced power for such vital functions as mass transit, hospitals and sewage treatment. The decision to allow increased levels of SO₂ and particulate matter even on a limited temporary basis is a difficult one but in view of these alternatives it is the only reasonable one."²⁰

The Decisions in Contrast

CEPA was disappointed with the actions taken by the State.²¹ CEPA believed that Con Edison had exaggerated the situation to make their case stronger. CEPA calculated the fuel deficit at 15,000 barrels a day, not 35,000 barrels as Con Edison had claimed on November 25, 1973. CEPA thought the decision environmentally unwise particularly because of the effect of low stacks at such facilities as Ravenswood and the City's inability to meet federally mandated standards. CEPA believed it was EPA's responsibility to direct the use of coal to other national regions where coal was environmentally less hazardous. Furthermore, CEPA's actions reflected its desire not to supercede or discourage pending EPA directives to reallocate fuel.²² Besides allowing coal, the State decisions differed from the CEPA decision by permitting the use of non-conforming oil in unlimited quantities with no economic penalties.

At first there was some confusion among CEPA, PSC, and DEC regarding exactly which decision would be enforceable since the decisions were not alike. It was not clear if PSC had the power to overrule environ-

mental agencies in order to maintain adequate electric power. After informal meetings between the City Emergency Energy Supply Task Force and DEC, it was agreed that the stricter ruling would prevail.

Con Edison and a Second City Variance

In December 1973, the energy crisis worsened. The price of residual oil rose from \$4.2 per barrel to \$18.50 per barrel. Musicus, now head of the Emergency Supply Task Force, hinted that he might ask PSC for a statewide 5% voltage reduction.²³ Con Edison quickly replied that a voltage reduction would be unnecessary if it were permitted to burn coal.²⁴

Con Edison Vice-President Harry Woodbury wrote to CEPA Administrator Herbert Elish, asking him to reconsider the November variance and to permit the use of coal.²⁵ The New England Petroleum Corporation (NEPCO), a fuel supplier, had informed Con Edison that it was reducing its delivery by 600,000 barrels in December, and part of its shipment would be 1% sulfur oil. The second major supplier, Hess, had likewise informed Con Edison that its delivery would be 1.25% sulfur oil. Con Edison Vice-President Woodbury was worried that, because of the outage at Indian Point #2, which would probably last until sometime in January, the situation was more severe than had been earlier anticipated. He believed that using coal would not increase SO₂ concentration in the air any more than the use of non-conforming oil, and particulates would be increased only at points of emission.

On December 6, 1973, a meeting was held at EPA Region II headquarters. In attendance were representatives from EPA, FEO, FPC, DEC, PSC, the New Jersey Department of Environmental Protection and CEPA. The first topic under discussion was conversion to coal. A list was developed consisting of 26 plants for which EPA would approve coal switching. Neither of the Con Edison plants was listed. However, if those non-Con Edison plants which would be permitted to burn coal failed to do so - thus tying up residual oil for New York City - EPA did not want the responsibility for causing Con Edison's fuel supply to be depleted. FEO could not guarantee the transference of oil to the City because no allocation procedures then existed, and it warned that even with major conservation measures there would be a "significant shortfall."²⁶ A deal was therefore made to permit coal at Arthur Kill if the Sewarren plant in New Jersey ceased burning coal. Arthur Kill #30 was considered cleaner, and its pollution would have less impact on air quality in the area than would the New Jersey plant. It was unanimously decided that Ravenswood would be unsuitable because it had a greater population density and was located in an area that already far exceeded air quality standards. If the precipitators (which reduce particulate emissions) failed at Ravenswood, the immediate affect would be hazardous to the population.

As a result of the December 6th meeting, Deputy Mayor Edward Hamilton contacted William Simon at FEO, urging a quick decision from Washington as to whether mandatory allocation of residual oil would be made to Con Edison so the City could make a meaningful decision

regarding the burning of coal. He noted that the variance for coal had been denied partially because of the limitations in coal supplies. If the City acted favorably on Con Edison's application, the utility could be burning coal by January 1st. Since there was only a 10-day lead time to make purchases, Hamilton felt the situation required haste.²⁷ He told Simon that unless mandatory allocation could be made to Con Edison there would be a shortfall with or without coal.

On December 13, 1973, EPA gave its approval for the use of coal at Arthur Kill #30 and a partial approval of exception to the New York City Air Code. Deputy Regional Administrator Outwater said Arthur Kill was chosen because its conversion time was three weeks; if Ravenswood later needed to be converted, it could be done in 3 days.²⁸ EPA Administrator Russell Train cautioned: "There doubtless will be some increase in mortality, because of the use of coal." but air quality would be no lower than in 1972.²⁹ EPA noted the FBO warning that, even with conservation measures, there would be East Coast shortages. EPA therefore recommended that Con Edison be able to use residual oil of up to 1.5% sulfur content and coal of 1 lb. per million BTU with an ash content of 15%. At the Arthur Kill #30 boiler, this was extended to 3% sulfur oil and coal with a sulfur content of 2.5 lbs. per million BTU. The variance would apply until March 31, 1974. Furthermore EPA said the conditions imposed on Con Edison by the State variance should be enforced, especially regarding efforts to obtain stack gas "scrubbers."³⁰

The effectiveness of EPA and State decisions depended on the willingness of the City to go along. Con Edison now had now reiterated

its demand for coal. The utility claimed the City variance was inadequate in light of EFA's approval to the DEC exception permitting the use of non-conforming residual oil with no quantity limitation and permitting the use of coal at Arthur Kill #30.³¹ The City came under great pressure. Former DAR Commissioner Robert Rickles warned that "Con Edison will be right back next spring with the same request if they get by with it now."³² DAR Commissioner Fred Hart echoed Rickles by saying, "Our greatest fear is that once they get started, they will find some way to keep on burning coal."³³

The City Surcharge

When the city amended its decision on December 18, 1973, to permit coal at Arthur Kill only, it said that in return for the use of coal Con Edison would have to pay the city \$6.50 per ton, calculated to equate the cost of coal with that of .3% sulfur oil, to prevent the utility from incurring a financial advantage by using cheaper fuel. The city also included a scheme for increasing economic penalties as higher-sulfur content oil was used. The city hardly wished Con Edison to acquire economic incentives to burn higher-sulfur fuel, nor to give oil suppliers an opportunity to unload high-sulfur fuel previously forbidden to be sold in the city.

Con Edison found a loophole to these restrictions in the city's November 19th decision, which defined a "supplier" as any person "who transports non-conforming fuel into the City of New York for sale within the city."³⁴ Con Edison Vice-President Woodbury maintained that this excluded Con Edison from the City's December 18th stipulations since Con

Edison was not a "supplier." On December 6, 1973, the City amended its decision, defining "supplier" as any "person who transports any quantity of non-conforming fuel into the City of New York (for sale) with intent to sell or use such fuel oil in the city."³⁵ Between November 27 and December 11, 1973, Con Edison received amounts of non-conforming oil requiring payments of \$760,000 to the City. Nevertheless, Con Edison notified the City that it would not pay the surcharge because it did not apply to them.³⁶ Con Edison argued further that the surcharge was unfair, since the economic savings that was passed onto the consumer through the use of the fuel rider would be wiped out. Schwartz told the Emergency Supply Task Force that Con Edison was trying to obtain any available fuel regardless of price.³⁷ Moreover, Con Edison lawyers claimed that all other coal users should likewise pay the tax and cited public schools as an example. Within a few days Con Edison filed a suit in Brooklyn Supreme Court for an injunction against the tax.³⁸ On December 21, 1973, Con Edison received its injunction, forcing the city to waive the imposed economic penalties. The hearing was brief and the city's Corporation Counsel did not have an opportunity to present the city's case, according to CEPA analyst Sally Streiter.³⁹

CEPA noted that it was unfair that the consumers should shoulder the burden of penalties which occurred from the purchase of higher-priced fuel. After issuance of the injunction the city was faced with two alternatives - it could seek a change of venue to New York County in order to get a fairer hearing, or, it could make the case moot by amending its original decision and eliminating the scheme for economic penalties.

The latter course of action was taken on December 27, 1973, and the city never attempted to collect penalties from Con Edison even though it received some 50,000 barrels of non-conforming oil between December 6th, 1973 and the time the injunction was issued.⁴⁰

This futile attempt by the city to bargain with Con Edison for the use of higher-sulfur fuel was an effort to extract some benefit from the environmental hardship the city would endure and to remove any economic advantage Con Edison would have in using cheaper high-sulfur fuel. When situational factors changed, the city no longer felt obligated to strike a settlement. By March, when the Arab embargo of oil ended, oil companies stated that sufficient conforming oil would be available after all, CEPA restored the Air Code.

Public Activities

While discussions were being held by City and federal officials, local politicians and environmental groups demonstrated their opposition to the use of coal in New York City. Marcy Benstock of Clean Air, Inc., wrote Congressman Charles Rangel and suggested that any federal legislation should make the burning of coal discretionary, not mandatory, with authority vested in EPA, not the President. In addition, before primary health standards were violated, she suggested that (1) EPA should designate areas which should receive low-sulfur fuel because of dangerous health consequences, and (2) a Presidential finding be made to enforce all conservation measures. Moreover, EPA should be

prohibited from granting long-term variances where violations of primary air quality standards already existed. Clean Air, Inc., wrote EPA Administrator Russell Train on December 4, 1973, expressing the view that, according to the testimony given at the hearings, coal did not seem to be justified, and a mandatory conservation program should be instituted instead. On December 17, 1973, Clean Air, Inc., urged John Lindsay to calculate the supplies and needs of Con Edison again because the spot market had become more reliable, purchasing power was increasing, and conservation measures could bring about an 8% reduction in demand for electricity.⁴¹ Letters to Senators and Congressmen were sent out that implored them to make the City's plight known at EPA headquarters in order to maintain air quality.

City Councilmen Carter Burden (Manhattan East Side) and Theodore Weiss (Chairman of the Environmental Protection Committee) urged EPA Regional Administrator Gerald Hansler to postpone his decision until after the mandatory oil allocation had passed Congress, possibly alleviating any need for a variance. "A condition for granting a coal variance should be based on a joint city-state program for mandatory conservation."⁴² Burden also urged that filtration equipment be required where coal was to be burned.⁴³ Edward Koch and other members of the New York Congressional delegation - including James Delaney, Elizabeth Holtzman, Jonathan Bingham, Bella Abzug, Frank Brasco, Joseph Addabbo, Bertram Podell, Charles Rangel, and Herman Badillo - in a joint letter noted the discrepancies in the estimates of Con Edison's shortfall. They were afraid that if Con Edison were

allowed to burn coal on such shaky evidence, a precedent might be set which would endanger the implementation of the Clean Air Act.⁴⁴

The City Conforms

As was noted earlier, on December 18, 1973, CEPA amended its prior November 19 decision to permit Con Edison to purchase and store coal at Arthur Kill #30 subject to economic penalties (\$6.50 per ton) which were calculated to equalize cost with .3% oil. The variance would expire April 30, 1975, unless the Federal Energy Administration determined that Con Edison could not burn coal. The amount of coal to be stored was not to exceed 300,000 tons. Moreover, if the Administrator determined at some future time that it was contrary to the public interest, the coal would have to be removed from New York. The decision reiterated the City's demand that FEO develop an allocation plan designating which utilities would be allowed to burn coal, "taking into account constraints involving coal production and transportation, as well as appropriate economic and environmental factors." The decision noted that on December 13, 1973, FEO proposed Mandatory Petroleum Allocation Regulations to go into effect on December 27, 1973, which would aid the utilities. CEPA based its decision on new data provided by the Woodbury letter to Elish of December 13, 1973, documenting the lack of conforming oil. The decision to permit coal was based on the EPA decision to allow coal at Arthur Kill instead of the Sewarren plant in Woodbridge, New Jersey. Elish said, "We regret the Arthur Kill decision, but we believe the impact will be mitigated by the refusal of coal to the

Sewarren plant of Public Service Electric and Gas of New Jersey.⁴⁵ Elish hoped more stringent power conservation measures would not be considered.⁴⁶ The city also followed EPA's decision to withhold coal from the Ravenswood plant until the Administrator notified Con Edison that no further fuel supplies could be made available to it.

On December 20, 1973, a hearing was held concerning whether the 45-day variance granted to suppliers of fuel oil (granted November 19, 1973) should be extended. Data showed that because little low-sulfur fuel existed on the open market and the price had risen to unusually high levels, the surcharge implemented under the November 19 variance should be waived. (This surcharge had applied to the fuel suppliers as well as Con Edison, although the latter claimed that a loophole in the language of the November 19 variance excluded it from being considered a supplier). Suppliers testified that little conforming oil was being sold on the open market. However, one exception was Con Edison supplier NEPCO, which said it was currently meeting its obligation for conforming oil and could continue to do so through the first quarter of 1974. Eight other companies serving the New York City area said they would probably not be able to meet their contractual obligations, even if they substituted non-conforming oil, because of the embargo. Hess and Sun Oil promised that if sulfur restrictions were lifted they could probably meet 90% of their obligations. Hess was granted a variance effective immediately for the period ending March 3, 1974, to "...transport, store, offer for sale and sell to authorized buyers...non-conforming residual and distillate fuel oil, but only

provided that conforming residual or distillate fuel oil, as the case may be, is then not available in the quantity delivered...."⁴⁸ Sun Oil was also granted a variance until March 31, 1974, for non-conforming distillate fuel oil only if conforming distillate fuel oil were not available. CEPA said that if other oil companies presented evidence for variances, their cases would be considered and temporary emergency variances could be granted. Hess and Sun were required to report to the EPA the quantity, grade, and sulfur content of fuel oil delivered within 48 hours after delivery, and offer a statement that conforming oil was then unavailable. The sulfur content of oil delivered to Con Edison had to conform to the restrictions of the November 19 variance.

Further Variances

NEPCO had not applied for a variance since November 19. It had been shipping conforming oil to Con Edison after completing a deal with the nation of Libya that maintained its supply during the embargo. NEPCO transported its crude oil to Italy, where it was transferred to the Caribbean before shipment to the United States. Although the State Department may have had knowledge of this, this information was kept out of the public purview until it was "leaked" to the media in January 1974. Now Con Edison claimed it had a 600,000 barrel shortfall from NEPCO, which they said represented a 4-day drop in its reserves. Woodbury notified EPA on January 4, 1974, that NEPCO had informed Con Edison that they would experience a 90% shortfall for January, which was later confirmed by Bertram Schwartz.⁴⁹ However, NEPCO said it would be able

to supply the missing 90% after January 2, 1974. Con Edison claimed it had received neither a delivery schedule from NEPCO nor any of its January allocation.⁵⁰ CEPA staffer Larry Chertoff was also unable to find out what the conforming and non-conforming delivery schedule would be from NEPCO. CEPA then asked both Con Edison and NEPCO for a written explanation of the supply situation. Con Edison told the city that, as of January 8, 1974, 133,000 barrels had been delivered and that another 150,000 were scheduled for a January 14th delivery. It was later discovered that on January 8th NEPCO delivered 50,000 barrels of non-conforming 1.9% sulfur oil, even though NEPCO held no variance permitting the delivery of non-conforming fuel.

These matters were the subject of a meeting held the next day, January 9, attended by CEPA, DEC, and NEPCO. Neither Edwin Carey, President of NEPCO, (and brother of New York State Governor Hugh Carey), nor Richard Weinart, Executive Vice-President of NEPCO, were able to be present. Norman Schneiderhan, NEPCO regional Sales Manager, was sent instead. After arriving 1½ hours late, he was unable to provide neither information about the status of the Bahamas refinery, which NEPCO claimed to be in trouble, nor any explanation for NEPCO's difficulty in meeting its contractual obligations. CEPA felt he had been sent precisely because his position as Sales Manager was unrelated to the issues that were being investigated.⁵¹ The result of the meeting was that the city informed NEPCO of its sulfur violation and requested an affidavit explaining its occurrence and an application for a variance.

On January 10, 1974, Carey confirmed the deliveries of non-conforming oil to Con Edison on January 1st, 5th and 8th. NEPCO formally submitted an application for a variance on January 22nd which, although promulgated on February 11th, was backdated to January 11th. The reasons set forth for this action in the variance included NEPCO's difficulty in keeping its commitments because of its embargoed sources, and the fact that NEPCO was a major supplier to Con Edison as well as to residential and industrial consumers. Con Edison could receive up to 300,000 barrels of non-conforming oil during the period of the variance. (The sulfur limitation was 1.5% as had been adopted in the DEC variances). A variance made on behalf of Con Edison on February 11th - for non-conforming oil over the 3 million barrels permitted in the November 19 variance- allowed the additional use of 300,000 barrels of non-conforming oil. CEPA noted that the application for this variance was not received until January 30, after delivery of the oil had been made, and that Con Edison could be liable for civil penalties pursuant to Air Code regulations.⁵² The City had no choice but to grant Con Edison this variance because it had little lead time to confirm the utility's estimate of the fuel supply situation. Con Edison assured the city that it would request variances sooner in the future.⁵³ The variance also required Con Edison to "install and maintain in good operating condition such devices and apparatus as the Administrator shall reasonably require in order to monitor and record emission of sulfur and sulfur products from Con Edison generating facility stacks."⁵⁴

Continued Pressure

During this same period of time, FEO was being pressured by Con Edison and the City to honor its commitment to allocate fuel to New York City as had been agreed in the coal switching plan,⁵⁵ (in which the federal government allowed certain utilities to return to coal). A meeting was held in Washington on January 1, 1974, which included FEO, EPA, DEC, CEPA, NEPCO, Con Edison and the Governor's Office. NEPCO reassured everyone that it would live up to its delivery schedule. The following Friday another meeting was held at which the utilities were guaranteed at least 10 days usable supply. It was agreed that allocations would not be diverted away from any utility if it caused supplies to fall below a 15-day reserve.

Con Edison continued a many faceted campaign to justify extended use of non-conforming oil above the required limits on economic grounds that it would save millions of dollars for its customers.⁵⁶ Con Edison also requested PSC to approve a conservation adjustment charge to compensate for lost revenues due to decreased power sales. Con Edison had reduced voltage by 5% above the state ordered level of 3%, claiming that only a 10-day supply of fuel remained.⁵⁷ Con Edison continued to press the DEC, EPA, and PSC for permission to burn coal at Ravenswood #30. Con Edison claimed the short supply of fuel and the failure of FEO to respond to the utility's demand for 1,700,000 additional barrels of oil necessitated the burning of coal at Ravenswood.⁵⁸

Con Edison further argued that time was critical because, by the time CEPA had granted Con Edison its request, the need for coal would

be substantially increased and greater lead time would be needed to procure coal.⁵⁹ In essence, Con Edison was trying to pressure CEPA into quick approval for coal at Ravenswood by saying that once EPA had approved it, Con Edison would be at a disadvantage in its efforts to obtain coal if CEPA required more time to deliberate. The arguments were essentially: (1) insufficient time existed to obtain the necessary fuel; (2) there was limited knowledge of the availability of fuel supplies; and (3) the absence of any response from FEO on Con Edison's requests for additional oil - to compensate for oil which would have been saved had Ravenswood gone to coal - necessitated the use of coal at Ravenswood immediately.⁶⁰

EPA Deputy Administrator Outwater believed that Con Edison was using the NEPCO situation to obtain other advantages. For example, Con Edison changed its definition of what constituted reserve supply. There had been an increase of fuel stockpiles because 20,000 fewer barrels per day were burned because of conservation measures. What had been calculated as a 10-day use was now $11\frac{1}{2}$ days. Con Edison consequently changed the terminology to "usable supply," which eliminated from the estimate that oil left in the bottoms and the pipes. This decreased the supply figure by 5 days. Con Edison continued to press to eliminate restrictions on the use of coal. On January 1, 1974, Woodbury told the City that Con Edison was unable to purchase low-sulfur coal as required by the variance, and had secured an agreement from DEC Commissioner James Biggane for an emergency exception to use higher-sulfur coal. Con Edison also sent Elish a telegram asking permission

to use higher-sulfur fuel in the light of its new appeal to EPA for coal at Ravenswood. The telegram read: "/if/ granted and assuming your permission to burn coal at this plant is also received, our need for coal will be greatly increased, our need for the permission...becomes more critical."⁶¹ Reserves of oil were down to 9.8 days and Con Edison wanted immediate approval to burn coal. However, a call on January 14 to DEC Assistant Commissioner Steve Gordon in New York City revealed that a variance had not been agreed upon. Elish then called Biggane and learned that Biggane had said only if Con Edison were unable to obtain low-sulfur coal would an exception be issued in the future. Subsequently, Chertoff contacted suppliers of coal of Public Service Electric and Gas of New Jersey for information on coal supplies, since there were no central sources of regional information regarding price, supply, or quality. On January 16, Sally Streiter, a CEPA staffer, made available to Con Edison a list of sources of low-sulfur coal, and soon after Con Edison dropped its request for high-sulfur coal, explaining that the coal situation had changed for the better over the prior 5 days.

Neither CEPA nor EPA were anxious for Con Edison to extend burning to the Ravenswood plant. Since there was a limited storage capacity at Ravenswood, contracting for coal would more likely lead to its use. CEPA did not believe it would be necessary to use coal at all after March 31, 1974, since the oil supply situation had improved.⁶² EPA felt that approval of coal for Ravenswood would contravene the EPA-FED program of converting only those plants to coal which would produce the least health hazards. EPA assured Con Edison that all requests for

additional supplies of residual oil would be forwarded to FEO.⁶³ "It is not our intention to plunge precipitously into the conversion of oil-burning equipment to coal use when the affected facility potentially impacts an area which exceeds primary ambient air quality standards."⁶⁴

Although the media reported that the fuel situation was stabilizing, and that Con Edison's reserve capacity had increased from 8.5 to 20 days supply, Con Edison continued to press for the use of higher-sulfur fuels during February.⁶⁵ The utility claimed that its suppliers were still unable to meet their contractual obligations and that the spot market for oil was unreliable. Because of the embargo, NEPCO told Con Edison that low sulfur oil from Lybia was now unavailable, but it could continue to supply 1% Nigerian oil.⁶⁶ Texaco had informed Con Edison that it had sufficient quantities of high-sulfur fuel available and that a further variance would provide flexibility.⁶⁷ Exxon said they would have conforming oil available subject to the new petroleum allocation regulations.⁶⁸ Hess told Con Edison they would be able to resume delivery of conforming oil as of March 10, 1974.⁶⁹ Con Edison interpreted this situation bleakly and petitioned the city February 25 for a six-month variance from the New York City Air Code to use non-conforming residual fuel beginning March 28, and to purchase, store, and use in the city coal with a sulfur content greater than allowed in the present Code. Con Edison claimed their fuel supply was inadequate because of the inadequate allocation of low-sulfur fuel by FEO, because of the oil shortage, and because it lacked desulfurization equipment. Con Edison once more requested permission to burn coal at Ravenswood

and to continue to burn it at Arthur Kill based on economic reasons and the ability to be free from dependence on foreign sources of fuel. The utility estimated that conversion to coal would be completed by March 11, 1974.

Application for a Variance Extension

Meanwhile, Con Edison applied to the state for exception from the sulfur limitations of 6 NYCRR, Section 225.2, and for permission to burn coal at Ravenswood and Arthur Kill. It was determined by State and City officials that a joint hearing would be the most efficient way to deal with these applications, and an announcement was made that they would take place March 14, 1974, at 2 World Trade Center. At the hearings Con Edison would be asked to provide information on its ability to purchase power, the progress made in enforcing contracts with suppliers that had failed to deliver committed quantities of fuel, results of federal allocation policies, status in installation of desulfurization equipment, precipitator efficiency at sites where coal was contemplated, and results of conservation efforts.

The Hearings

Testimony at the March 14th hearing revealed that the oil supply situation was no longer critical. Coal burning therefore was sought by Con Edison on economic grounds by claiming it would reduce the consumer bill by 14% and reduce imports by \$200 million per year.⁷⁰ Vice-President, Bertram Schwartz, testified that NEPCO would be able to supply 1% sulfur oil until the embargo was lifted, and to supply

conforming fuel six weeks after it was ended. Since Lybian crude was the most expensive oil, the price of residual oil was expected to rise. Schwartz noted that the upgrading of Arthur Kill facilities would take from 5 months to 1 year and would cost approximately \$1,000,000. Since the installation of desulfurization equipment could not be completed during the period of the variance, without a guarantee of a long-term variance, Con Edison did not consider such installation to be feasible. Schwartz testified: "In the interests of long term fuel reliability and flexibility as well as in the interests of reduced energy costs to our customers, we urge that you take such actions as necessary to permit the long term fueling of Arthur Kill #30 and Ravenswood #30 with coal as the normal fuel."⁷¹

Con Edison argued that air quality had not deteriorated during the fuel emergency and the use of coal would add only an insignificant amount of particulates to the air because of precipitator efficiency. Coal was considered by Con Edison to be a good alternative because of its price advantage and insignificant impact on air quality.

Under questioning by Jeffrey Cohen, Citizens for Clean Air, Schwartz admitted that Con Edison had underestimated its firm purchases of power as well as the price of coal. Schwartz said his corporation was not asking for coal at Astoria because its stacks were low - which proved, he said, that money was not Con Edison's only consideration.

Con Edison's Chief Air Quality Control Engineer, Peter Freudenthal, testified that his company's fuel had had an average sulfur content of .49% during the first 2 months of the variance, with no observable

change in air quality. Any increase in sulfur content of fuel would be offset by the decrease in fuel consumption due to public conservation measures. Freudenthal estimated that if no coal were burned after March 31, 1974 (assuming 61,000 tons were burned until then) SO₂ concentrations would range from .002 ppm to .004 ppm. The use of non-conforming oil would add only .001 ppm more than the use of conforming oil. The maximum 24-hour SO₂ concentration from non-conforming oil without the use of coal would be .004 ppm. He calculated that even if coal were burned at Arthur Kill and Ravenswood until December 31, 1974 (with an average sulfur content of 1% and ash content of 15%), the average SO₂ concentration at Arthur Kill would increase at the point of maximum impact by only .009 ppm and the 24-hour concentrations would increase by only .04 ppm. If some coal were burned at Ravenswood, the annual SO₂ concentration at the point of maximum impact would increase by only .003 ppm over non-conforming oil and the maximum 24-hour concentration would increase by only .02 ppm. He considered these figures evidence that coal and non-conforming fuel would have little impact in the annual averages of SO₂ in the air. Herb Johnson, CEPA Counsel, asked Freudenthal if the favorable air quality during the burning of non-conforming oil could not be the result of 20% to 25% less fuel being burned. Freudenthal responded that he lacked data on fuel. He noted that a reduction of low-level emissions would decrease Con Edison's effect on air quality. Harold Seitz, Chief of the Meteorology Section of the Division of Air Resources, DEC, asked for data concerning the quantitative impact of fuel quality in terms of percentages of the ambient air quality standard, which

Freudenthal said he would supply within a week. Seitz also asked him to supply information to show whether the 24-hour standard would be violated since Con Edison's figures showed only a percentage increase but not whether standards were in fact being violated. John Sontowski, Assistant Director, Bureau of Technical Services, DAR, provided data showing that if Ravenswood converted to coal and 1.25% sulfur oil, annual emissions of SO₂ and particulates would increase from 12,194 tons to 61,087 tons and from 434 tons to 2,480 tons respectively. This would represent a 400% increase in SO₂ and 450% increase in particulates (assuming a 99% precipitator efficiency). If Arthur Kill converted to this same fuel, the annual emissions of SO₂ and particulates would increase from 5,291 tons to 26,770 tons and from 188 tons to 9,750 tons respectively. This would be a 406% increase in SO₂ and a 5,250% increase in particulates (assuming 90% precipitator efficiency). Although the impact on the annual average might be small, the 24-hour average would be more significant. He pointed out the danger which might result from the transformation of sulfur oxides to sulfates. The high stacks produced a longer dispersion time in which sulfur could react to form the more toxic sulfates.

There was some disagreement about the procedures for testing emissions at the smokestacks, with DEC claiming that Con Edison had agreed that the test was to be inside the stack, and Con Edison maintaining that this procedure was too costly and dangerous. Under further questioning, Freudenthal said DEC had indicated that it wanted stack-testing sometime in January, but it had been considered unfeasible

by Con Edison.

The oil companies surprised everyone at the hearings when they announced the availability of oil, contrary to the testimony of Con Edison. Hess said it had been supplying 90% of its commitments and was currently supplying conforming oil to Con Edison. They took issue with Con Edison's estimate of the price differential between coal and oil, noting that the price of oil was declining. NEPCO testified that two-thirds of their FED allocation of 1.3 million barrels would be conforming oil because of the resumption of Libyan oil stockpiling and the construction of a hydro desulfurizer in Grand Bahama.

At the hearing, FED made public a list of plants which could safely convert to coal after consideration of both environmental effects and the constraints of the coal and oil supply situations. Short-term conversions were not being encouraged where coal would be purchased on the spot market and where air quality standards were currently being violated. Use of coal at Ravenswood #30 and Arthur Kill #30 was not recommended even with the installation of flue gas desulfurization equipment because they were base-load plants and could not easily be taken off the line if control equipment malfunctioned.

Interest groups testifying at the March 14th hearings reiterated the harmful effects of extended use of high-sulfur oil. Dr. Bernard Goldstein, representing the Scientists Committee for Public Information (SCPI) once again, told of the sharp increase in deaths attributed to air pollution. These dramatic health effects were not easily dismissed by those who were skeptical at Con Edison's past performance in

controlling harmful emissions. Marcy Benstock of Clean Air, Inc., noted that Con Edison precipitators still did not function at the performance standards of 99% efficiency as required by the State. The impact of emissions from high-sulfur fuel is greater, she explained, on a short-term basis when there are poor atmospheric dispersion conditions. Con Edison's claim that high stacks eliminated the harmful effects of coal burning was once again challenged by the environmentalists. Goldstein argued that emissions were just spread around a larger area, and the increased number of particulates would increase the catalyzation of sulfur dioxide to sulfuric acid and sulfates. In a separate analysis of the fuel situation by SCPI, based on statistical bulletins of the American Petroleum Institute, it was found that when the crisis was at its height, crude imports were 50% higher than the same four-month period during the previous year. For the entire year crude imports from all sources exceeded 1972 by 44%. Goldstein concluded that nationally there did not appear to be any shortage and that Con Edison's demand to use coal because of supply shortages was only a diversionary measure.

Some of those testifying believed that the energy crisis was being used by industrial polluters to return to pre-regulatory days. Carl Jones, representing the Harlem Consumer Education Council, suggested that the oil industry was taking advantage of the situation to increase its profits at the expense of Con Edison customers. Benjamin Levine, testifying for the Environmental Planning Lobby, contended that the situation was also being manipulated by Con Edison to obtain support

for rate increases as well as the relaxation of environmental regulations. He suggested that Con Edison's increased costs had possibly been due to inefficiencies in management, rather than to the fuel.

Some of those testifying recommended that conditions be attached to the variance so that Con Edison would be more strictly regulated by City and State agencies.⁷² They suggested that: (1) Con Edison offer proof that it was unable to obtain low-sulfur fuel; (2) only a 30-day extension of the present variance be granted if Con Edison's proof were valid; (3) Con Edison be required to install the best available air pollution control equipment to modify its negative impact upon air quality; and (4) Con Edison develop a plan to meet the City's air quality standards and, if it failed to do so, that inquiry should be made as to whether Con Edison should be allowed to remain in existence in its present form.

Opponents of the variance disputed Con Edison's accuracy. The economic savings argument proposed by Con Edison was one such example. Opponents of the variance charged that the use of coal would not yield a substantial economic savings to the customer because coal was not a reliable alternative, coal companies being currently unable to meet their present contractual obligations. Moreover, as Marcy Benstock pointed out, the price of coal had increased, diminishing the price differential between oil and coal; if the price of coal went above \$40 per ton and the price of oil fell below \$10 per barrel, there would be no economic advantage in using coal. Because documented evidence existed that coal produces more severe health hazards than oil, Benstock

suggested that FEO allocate low-sulfur oil to Con Edison and that State agencies sue to compel such action.

A few individuals complained about the variance procedure itself, claiming that the short notice given for the hearings and the lack of information provided by Washington and Albany bureaucracies effectively denied citizens due process. James Periconi, Environmental Law Council, testified that he had made many unsuccessful attempts to obtain a copy of the November 12th hearings, but even PSC could not locate a copy for him.

A subsequent hearing was held by PSC, DEC, and CEPA on March 21, 1974, to consider variances from the City Air Code for fuel oil suppliers. NEPCO testified that it would be able to supply only conforming oil no later than May 15, and simply applied for a 45-day variance. Hess said that all its deliveries would be of conforming oil.

Marcy Benstock of Clean Air, Inc., reiterated the position she had taken at the March 14th hearings. She noted that the spot market price for low-sulfur oil had declined and that the majority of oil suppliers were not applying for exemptions. If a few could not meet the sulfur requirements, she again suggested that FEO allocate low-sulfur oil to New York City and/or be compelled to do so by City and State agencies. She observed that energy conservation had not been implemented and should become a priority before sulfur restrictions were relaxed. She also recommended that natural gas allocations to New York City be increased and the output of conforming residual oil be increased at the expense of gasoline production.

Con Edison Vice-President Harry Woodbury submitted a letter asserting that the price of oil was not declining and the shortage of oil was not abating, although the Arab embargo had been lifted. He warned that consumers, not Con Edison, would be paying the subsequent additional costs. "The use of coal is certainly one means of relieving the financial hardships which have been placed on our customers."⁷³ Con Edison claimed economic hardship, which was a basis for granting a variance under Section 1403.2-3.11(a) of the City's Air Pollution Control Code and under Section 19-0509, subdivision 3, of the Environmental Conservation Law (within DEC authority). Pointing to customer outrage as displayed at the March 19, 1974, rate hearings, Woodbury implored City and State agencies to consider the social and economic impact upon Con Edison customers. Woodbury contended that this economic hardship justified the use of coal, which would result in substantial savings to consumers in a geographical area where primary SO₂ and particulate standards were already being met. Moreover, he suggested that New York City be more vigorous in reducing pollution from other sources such as space heating and incineration.

The Decisions

On March 29, 1974, PSC granted a certification of insufficiency of #6 conforming residual fuel for the period April 1, 1974 through December 31, 1974. The conditions of the certification were similar to those of October 1973 except that PSC now recommended the use of coal at Arthur Kill and Ravenswood "in light of the substantial economic

A

advantages of coal-firing there."⁷⁴

On March 27, 1974, DEC granted exception from 6 NYCRR Section 225.2(d) and (b) to Con Edison for 1.5 million barrels of non-conforming oil per month for the duration of the PSC certification of insufficiency but only if prior evidence submitted by Con Edison indicated that conforming oil was unavailable. But in denying the use of coal at Arthur Kill and Ravenswood, Commissioner Biggane discounted the economic savings as irrelevant. DEC had asked Con Edison on March 11 the substantiate the price differential which was to yield the economic savings, but Con Edison had failed to satisfy that request. Con Edison was allowed to keep the coal it had acquired in storage until December 31 or until FPD decided which utilities could use coal. Biggane noted that the utility demand for power had not increased and that availability of oil made the future more optimistic. "This conclusion is supported - and in fact - required by Chairman Swidler's certification of an insufficiency of conforming fuel only" stated the DEC decision and no shortage of non-conforming oil was demonstrated.⁷⁵ DEC added a provision that any savings resulting from lower fuel costs must be passed on directly to the consumer. Biggane reserved the right to consult with the PSC Chairman to determine sufficiency of fuel supplies and he could, in that connection, revoke the exemption for limited use of non-conforming oil.

CEPA released its decision on March 29, 1974. It was based on the changed fuel supply situation, which indicated that all of Con Edison's suppliers would be able to deliver conforming oil. (See letter of Mr. Weinand, NEPCO, March 26, 1974). As for coal, the price per ton had

increased, while the price of oil had stabilized, thus dealing a blow to Con Edison's economic-savings argument. CEPA estimated the savings would amount to only 40¢ per month now. The City also considered the FBO report, which characterized the use of coal at Arthur Kill and Ravenswood as an environmental hazard. Although annual average air quality levels were not greatly affected by non-conforming fuel, these standards were not presently being met. Special concern was expressed about their effect on the 24-hour primary standard, since coal-burning would add considerably to the 24-hour average. Moreover, if a precipitator should fail, the effect on ambient air quality would be disastrous. Therefore, the city forbade the use of coal and non-conforming oil unless both a written statement from the supplier indicating inability to deliver conforming oil and a statement from Con Edison detailing the shipment and efforts to secure conforming oil were supplied. The Administrator would then make the final decision. This conditional variance applied until June 30, 1974, and set the limits at no more than 1.6 million barrels of oil with a sulfur content of no more than 1%. The application to burn coal beyond March 31, 1974 was denied. Con Edison was permitted to maintain in storage the coal in its inventory, but it had to apply for further variances to burn it.

On March 27, 1974, PSC published a report by Alan Roth, Executive Assistant to the Chairman of PSC. He explained that the situation had changed because the federal mandatory allocation program could now get oil to New York City. Russell Train, EPA Administrator, and William Simon, FBO Administrator, wrote suppliers on January 16, 1974, asking

them to voluntarily ship low-sulfur oil to New York City. Con Edison's energy conservation program had also reduced demand by 10%, a possible result of PSC prohibition of energy sales promotion and a 5% statewide voltage reduction. Without federal approval, Roth said the State could not authorize further use of coal; however, if the federal government did approve it, the State would then find it difficult to prohibit. Since Con Edison was now asking for coal on grounds of economic relief, not insufficiency of oil, the analysis by PSC had to be different.

Since all suppliers indicated they would be able to meet their obligations, Roth recommended to the DEC Commissioner (1) to consider the economic advantages, and (2) to authorize coal unless serious health effects could result. Conditional to the use of coal, Con Edison should be required to: (1) attempt to secure adequate supplies of conforming residual oil; (2) pursue contractual entitlements to volumes, grades, and values of oil; (3) pass savings on to customers; (4) maximize efforts to conserve fuel in its own operations and with customers; (5) continue the purchasing of power; and (6) report monthly to the PSC Chairman and the DEC Commissioner for the duration of the certification.

Conclusion

From the time of the passage of New York City's Air Code in 1971, which established strict air pollution standards, until the period under study, October 1973 to April 1974, Con Edison made public its objections to the regulations. It first argued that it could not get enough low-sulfur fuel to meet those regulations, an argument which was

plausible during the Arab embargo. After the fuel shortage eased, Con Edison argued that higher-polluting fuels should be used because they would represent an economic savings to the consumer. The Arab embargo had reinforced Con Edison's ongoing opposition to the city's Air Code.

During the period of this study, Con Edison began reporting financial difficulties. Capital requirements to support its program of modernization - \$3.5 billion between 1974 and 1979 - were not obtainable from private markets.⁷⁶ Con Edison blamed its problems on increased fuel costs and unpaid bills.⁷⁷ In early April 1974, it began negotiating with the State for a takeover of two of its plants under construction (one of them being the Astoria #6 plant).⁷⁸ Con Edison was also feeling public criticism for high rates, poor service, and a discriminatory rate structure which favored heavy users. In response, Con Edison argued that government regulatory agencies and environmentalists were responsible for their difficulties.

The ultimate decision of whether or not to grant Con Edison variances during the fall 1973-winter 1974 period was influenced by pre-decision variables, that is, a low-level of public information regarding fuel supply or the impact of high-sulfur fuels on air quality, multi-decision-making centers with overlapping responsibility, and heightened public interest in Con Edison operations and the environmental issues involved. Environmental agencies were limited because of the City's vulnerability regarding electric power. Luce continued to threaten "draconian measures."

TABLE 2. Imports of Residual Fuel Oil by Percent Sulfur Content to New York State (thousands of barrels)^a

	.0-.5	.51-1.00	1.01-2.00	over 2.00	total
Sept. 1972	8,604	1,075	1,677	2,788	14,144
Oct. 1972	8,511	1,318	1,357	2,411	13,597
Nov. 1972	9,899	1,289	1,046	3,023	15,257
Dec. 1972	13,083	1,447	868	3,372	18,770
Jan. 1973	13,821	990	1,317	2,389	18,516
Feb. 1973	11,605	2,046	436	2,381	16,467
Mar. 1973	13,531	2,132	400	3,242	19,305
Sept. 1973	9,215	274	469	3,969	13,927
Oct. 1973	9,806	274	975	3,601	14,651
Nov. 1973	12,236	460	1,951	3,667	18,313
Dec. 1973	9,174	850	2,902	2,520	15,446
Jan. 1974	9,551	780	3,490	2,876	16,696
Feb. 1974	9,279	1,494	2,583	2,789	16,145
Mar. 1974	8,286	1,218	1,023	2,707	13,234

^aSource: Bureau of Mines, United States Department of Interior

Although there was not a significant drop in overall oil imports to New York State from September 1973 to March 1974, deliveries of low sulfur content conforming oil declined. However, considering the tightness of the oil supply market, slight fluctuations could have affected Con Edison if its suppliers failed to deliver contracted supplies of oil.

The fuel crisis of 1973-1974 provided interests in the private sector with an opportunity to manipulate government regulators because of uncertainty in the oil supply market. Con Edison exaggerated the situation to fit its own purposes. The public sector was unwilling to risk a power failure and unable to accurately assess the lasting impact of the fuel shortage. Local political leaders were unable to

put together a strong coalition of forces to strengthen the environmental position. More importantly, local agencies lacked adequate resources to resolve a problem whose origins were beyond the scope of New York City politics.

The next chapter contains a series of propositions which were developed from the two case studies (Chapters IV and V). The propositions attempt to explain, in more abstract terms, the relationships and bureaucratic behavior common to both decision-making situations.

CHAPTER V

FOOTNOTES

¹New York Times, October 27, 1973,

²Con Edison Public Information, October 26, 1973.

³Letter from DEC Commissioner Henry Diamond to EPA Regional Administrator, Gerland Hansler, September 26, 1973.

⁴Letter from EPA Deputy Regional Administrator Eric B. Outwater to DEC Commissioner James Biggan, October 10, 1973.

⁵Letter from Charles Luce to John Love, October 25, 1973.

⁶Letter from Con Edison Vice-President Harry Woodbury to CEFA Administrator, Herb Elish, October 26, 1973.

⁷Letter from Charles Luce to DEC Commissioner Henry Diamond and PSC Chairman Joseph Swidler, October 25, 1973.

⁸Ibid.

⁹Schwartz testimony, Hearings held November 12, 1973, 2 World Trade Center.

¹⁰Membership included the East Side Chamber of Commerce, the Midtown Realty Owners Association, the Owner's Committee on Electric Rates, the 34th Street Midtown Association, the East Side Association, the Hotel Association of New York, the Downtown-Lower Manhattan Association, the 5th Avenue Association, the Staten Island Chamber of Commerce, the West Side Association of Commerce, the Building Owners and Managers Association, Avenue of America's Association, the Real Estate Board, Gross and Brown, Pfizer Incorporated, the West Side Chamber of Commerce and Industry, the Citizen's Housing and Planning Council, the 14th Street Association, the Association for a Better New York, Rheingold Breweries and the Broadway Association.

¹¹ Other groups advocating similar positions included the Committee on Environmental Law of the Association of the Bar, Environmental Act on Coalition, GET Consumer Protection, Citizens for Clean Air, Coalition for Clean Air, the Mechanical Contracting Industry Energy Center, Council of Lung Associations of New York, New York City Health Services Administration and the New Board of Trade.

¹² Testimony of Center for United Labor Action, November 12, 1973.

¹³ Testimony of Marcy Benstock, Clean Air, Inc., November 12, 1973.

¹⁴ The Daily News, November 20, 1973.

¹⁵ New York Post, November 20, 1973.

¹⁶ New York Times, November 26, 1973.

¹⁷ Ibid.

¹⁸ Ibid.

¹⁹ Report on Application of Con Edison of New York, Inc., under N.Y.C.R.R. Section 225.3(d), Dated October 25, 1973, Relating to Insufficiency of Fuel Supply, p. 33.

²⁰ DEC Press Release, November 29, 1973, p. 2.

²¹ CEPA Press Release, November 27, 1973

²² Interview with CEPA staff member Sally Streiter, September 23, 1975.

²³ New York Times, December 3, 1973.

²⁴ New York Post, December 6, 1973.

²⁵ Letter from Con Edison Vice-President Harry Woodbury to CEPA Administrator Herb Elish, December 13, 1973.

²⁶ Federal Register, Volume 39, No. 6, January 9, 1974, p. 1440

²⁷Letter from Deputy Mayor Edward K. Hamilton to William Simon, FEO, December 6, 1973.

²⁸New York Post, December 13, 1973.

²⁹New York Times, December 14, 1973.

³⁰Statement by EPA Deputy Regional Administrator, Eric B. Outwater, December 13, 1973.

³¹Letter from Con Edison to CEPA, December 13, 1973.

³²New York Post, December 14, 1973.

³³Ibid.

³⁴CEPA Decision, November 19, 1973.

³⁵Amendment to November 19, 1973, Decision

³⁶CEPA Memo, December 12, 1973.

³⁷Interview with Sally Streiter, September 23, 1975.

³⁸Con Edison Press Release, December 21, 1973.

³⁹Interview with Sally Streiter, September 23, 1975

⁴⁰Interview with Sally Streiter, September 25, 1975.

⁴¹Letter from Marcy Benstock to Mayor John Lindsay, December 17, 1973.

⁴²Letter from Theodore Weiss to Gerald Hansler, December 3, 1973.

⁴³Letter from Carter Burden to Gerald Hansler, December 2, 1973.

⁴⁴Letter from Edward Koch to Russell Train, December 4, 1973.

⁴⁵CEPA amendment to November 19, 1973 Decision, December 18, 1973.

⁴⁶ Press Release, CEPA, December 18, 1973.

⁴⁷ Ibid.

⁴⁸ CEPA Decision, January 4, 1974, p. 4.

⁴⁹ Letter from Vice-President Harry Woodbury, Con Edison to EPA Regional Administrator Gerald Hansler, January 4, 1974.

⁵⁰ Ibid.

⁵¹ Interview with Sally Streiter, September 22, 1975.

⁵² Letter from Con Edison to Robert Low, CEPA Administrator, January 29, 1974

⁵³ Letter from Vice-President Harry Woodbury, Con Edison, to Robert Low, CEPA Administrator, February 20, 1974.

⁵⁴ CEPA Decision, February 11, 1974.

⁵⁵ Telegram from Vice-President Bertram Schwartz to William Simon, FED, January 4, 1974.

⁵⁶ Letter from Vice-President Harry Woodbury, Con Edison, to Robert Low, CEPA Administrator, February 20, 1974.

⁵⁷ Daily News, January 15, 1974.

⁵⁸ New York Post, January 15, 1974; Letter from Harry Woodbury, Con Edison, to Gerald Hansler, EPA Regional Administrator, January 4, 1974; Telegram from Bertram Schwartz, Con Edison, to William Simon, FED, January 4, 1974; Letter from Harry Woodbury, Con Edison to Commissioner Bigganne, DEC, January 7, 1974.

⁵⁹ Telegram from Con Edison to CEPA Administrator Herb Elish, January 11, 1974.

⁶⁰ Letter from Vice-President Harry Woodbury, Con Edison, to EPA Regional Administrator, Gerald Hansler, January 4, 1974.

61 Telegram from Con Edison to Herb Elish, CEPA Administrator, January 11, 1974.

62 Letter from Herb Elish, CEPA Administrator to Alfred Kleinfeld, Acting Regional Director, FEO, January 10, 1974.

63 Draft Memo on Meeting with Con Edison from Ray Werner, Advisor, Air Programs Branch, EPA, January 3, 1974.

64 Letter from EPA Deputy Regional Administrator, Eric Outwater, to Harry Woodbury, Con Edison, January 21, 1974.

65 New York Post, February 1, 1974 and Memo from Eli Sadownick, Deputy Commissioner, DAR, to Herb Elish, CEPA Administrator, February 27, 1974.

66 Letter from Richard Weinand, NEPCO, to Bertram Schwartz, Con Edison, February 25, 1974.

67 Letter from T. N. Cook, Texaco, to Bertram Schwartz, Con Edison, February 22, 1974.

68 Letter from R. D. Zelik, Exxon, to Bertram Schwartz, Con Edison, February 22, 1974.

69 Letter from Phil Kramer, Amerada Hess, to Bertram Schwartz, Con Edison, March 4, 1974.

70 Testimony of Vice-President Bertram Schwartz Con Edison, 2 World Trade Center, March 14, 1974. (Hereafter referred to as Schwartz Testimony).

71 Schwartz Testimony.

72 Testimony of Benjamin Levine, Environmental Planning, Lobby, Attorney General Louis Lefkowitz, and Marcy Benstock, Clean Air, Inc., March 14, 1974.

73 Letter from Vice-President Harry Woodbury, Con Edison, to the PSC, DEC and CEPA, March 23, 1974.

74 DEC Decision, March 27, 1974, p. 3.

⁷⁵Ibid., p. 7.

⁷⁶New York Times, April 1, 1974.

⁷⁷New York Times, April 5, 1974.

⁷⁸Ibid.

CHAPTER VI

PROPOSITIONS DERIVED FROM CASE STUDIES

The two case studies elucidated in Chapters IV and V provide an opportunity to observe decision-making situations involving a conflict between environmental and energy values in a large urban setting. These decision situations share common characteristics. One major actor was a private-sector utility with centralized management and clear objectives to increase power supplies and reduce fuel costs. The other major actor was the City of New York whose goals, considering the many interest groups and constituents it was obliged to consider, were multiple and shifting and whose powers were in effect shared with state and federal government. The city lacked important resources which affect the range of alternatives that could be considered; for example, the city lacked independent sources of data and planned strategies to deal with crisis situations. In both cases: (1) crisis conditions forced the city to short-term action; (2) the uncertainty of meeting electric power demand represented a substantial political risk; (3) long-term goals were in conflict with shorter-term goals; and (4) jurisdictional authority was split among multiple government actors.

The propositions which follow suggest (1) how the structure and strategies of decision-making affected the resources of actors and their success in a competitive bargaining situation, and (2) the influence of complex

interaction among governmental actors upon outcomes. The first three propositions relate information resources to both the authority of governmental actors and their powers.

Proposition 1: Authority (e.g., licensing, setting standards, rate regulation, project approval) as a resource in the decisional process is of limited value if the information resource is elsewhere controlled. As the control of information by an agency increases, the impact of its formal powers also increases.

The control of information is a major resource of decision-makers. "The indirect ways through which power may be exercised include such phenomena as controlling information and communications, thus restricting what will and will not be considered by decision-makers."¹ Where authorities are called upon to make decisions defining the scope of a client's action, information becomes an important component of the deliberative process. If the authority lacks independent sources of data and becomes dependent on the client for data, the independence of the authority becomes tainted and the client's power to influence decisions increases.

Information allows the participants in a decision-making process (the actors) to assess the external situation and to place the decision situation in a particular context. It provides a basis for agency evaluation of the kinds of decisions which can be made and the alternatives which are feasible. It enables the actors controlling it to make convincing public arguments. Its usefulness is limited when decision-makers are prevented from assessing a situation with

accurate clues. The larger the number of information resources available to an agency, the more opportunity it has to judge the accuracy and reliability of competing data. On the other hand, control of data outside the agency limits this process. Control of information outside the decision-making agency effects the choices available to decision-makers and therefore affects possible outcomes.

When an agency is unable to offer public guidance because it lacks technical expertise, public involvement may be inhibited. While public hearings may be an attempt by an agency to gather information, it may not have the intended impact because the public, in its turn, may feel ill-equipped to debate the proposal at issue. The technical nature of many energy/environmental issues restricts the scope of public debate because both agency personnel and the public may retreat from deciding a complex problem with which they lack experience.

In both decision situations under review, city agencies (1) lacked competing sources of data, and (2) lacked the expertise necessary to evaluate the data that was available. Con Edison was the source of most of the data acquired by the City. Information the government did have was dispersed among agencies with overlapping jurisdiction.

The Astoria Controversy

In the Astoria controversy, the city lacked its own resources to determine whether Con Edison was correct in its claim that the city would suffer power shortages without the construction of the proposed plant. The city received little assistance from state and federal power regulatory agencies. FSC approved Con Edison's 10-Year Plan in November

1969, including the construction of Astoria #6 and #7, but neither separate analysis of other alternatives nor any environmental assessment of the proposal was included.

The Mayor, having no department with any regulatory jurisdiction over electric power, referred the matter of the proposed plant to ICPU. Con Edison Vice-President Louis Roddis was not very helpful when called upon to make a presentation. ICPU then requested Con Edison to supply it with a brief supporting the Astoria project, including responses to questions submitted by ICPU. Con Edison's responses were contained in a letter from Louis Roddis, outlining the project with slightly more detail.²

The inexperience of the city in these matters was reflected by its ignorance of its own powers. Months after the project was under consideration, CEPA was unaware that it had specific permit powers which could halt the project. Because of the lack of evidence that the variance was controversial (waiting for issues to be brought to governmental agenda by conflict), the engineer who received it handled the permit in a routine fashion (permits were ordinarily handled by low-level bureaucrats). In fact, the matter had been handled so routinely by DAR, that it granted Con Edison a permit to install the new boilers without ever informing Commissioner Rickles of the action made under his authority.

In an effort to reduce Con Edison's control of the decision situation, CEPA pressed the Mayor to open the controversy to public debate, to solicit additional opinions and to obtain more precise information in the hope of dramatizing the environmental impact of the proposal. One

means to acquire information was to broaden the scope of the conflict to include more actors who could be a source of information valuable to the city. Although the Mayor sought opinions from authoritative agencies at different levels of government, as well as interest groups and political leaders, none had concentrated technical resources capable of counter-balancing those of Con Edison.

The City lacked information about the feasibility of installing pollution control devices at Con Edison's plants. The City also lacked any means of forcing Con Edison to develop or install such devices. New York relied on the development of stack gas-removal techniques by Con Edison, which had taken little initiative in this area. Without its own research facilities, or input into those at Con Edison, the City relied on Con Edison's estimates of cost and feasibility for equipment which would reduce Con Edison's contribution to air pollution in the city. The lack of any authoritative power to force the development of pollution control measures or more efficient power production, together with the City's low level of technical knowledge, gave Con Edison no motivation to alter its present methods of generating electricity and consequently to decrease its environmental impact.

Although CEPA was poor in data, it tended to believe that Con Edison over-estimated its power needs and that the utility had the necessary reserve power required by FPC. However, Con Edison maintained that the correct power system would become increasingly taxed because of new construction, such as the World Trade Center. Con Edison contended that increased power demands forced them to take measures to even out

the system for peak periods - necessitating the construction of the Astoria additions. CEPA was forced to use Con Edison's own estimates of current and projected demand figures to challenge Con Edison!

A primary concern of CEPA was to obtain information so it could acquire its own analysis of the situation; however, most of the basic data was still produced by Con Edison. External variables such as inexperience, lack of expertise, and increasing political pressure hampered CEPA's ability to formulate independent analysis. If CEPA could not effectively challenge Con Edison's estimates of its power needs and the means required to satisfy such needs, the Mayor had little choice than to rely on Con Edison's interpretation of the situation.

The 1973 Fuel Crisis

The control of information did not substantially change when the "energy crisis" of 1973 occurred. Of CEPA personnel interviewed, all agreed that the greatest problem then encountered was lack of information.

Con Edison supplied data to the city concerning its fuel needs, but the city had no way to judge whether such data was accurate. CEPA lacked the technical capability for analyzing fuel availability and supply data, analyses which were often lengthy and difficult to comprehend.

Although assessments of the severity of the fuel crisis were essentially based on the same data provided by the oil companies and Con Edison, each set of actors had a different perception of the situation. CEPA estimates of Con Edison's shortfall (supplies that must

be committed to meet projected demand) was 2.3 million barrels, or 15,000 barrels per day for the period of the proposed variance, while Con Edison claimed the shortfall for the same period was 35,000 barrels per day.³ Lacking a reliable reporting system, it was difficult for CEQA's Emergency Energy Supply Task Force to give particular credence to a piece of information provided by either the oil companies, Con Edison, or interest groups. For example, When Hess Oil testified at the March 1974 hearings concerning the availability of conforming oil, its figures could not be held reliable because Hess did not have absolute control over its supplies, often purchasing oil from other suppliers.

There is additional disagreement over the extent of the impact of higher-sulfur fuel. In November of 1973, it was difficult to predict the environmental impact because the sulfur level of the fuel that would be available was not known. By the March 1974 public hearings, both DAK and Con Edison presented more detailed testimony on the impact upon air quality, and although they both used a similar data base, they each arrived at different conclusions. Peter Freudenthal, Chief of the Air Engineering Division of Con Edison, used statistics showing the impact upon the annual average of sulfur dioxide. Since the variance for coal was to be of six months duration, the overall effect of additional Con Edison pollution appeared numerically small. The annual average SO_2 concentration was .002 to .004 ppm.⁴ Ferrand of DAK projected the number

of tons of sulfur dioxide which would be released into the atmosphere - a more substantial figure. DAR calculated that, if Ravenswood converted to coal and 1.2% sulfur oil, the annual emissions of SO_2 would increase from 12,194 tons to 61,087 tons, and the annual emissions of particulates would increase from 474 tons to 2,480 tons, assuming a 99% precipitator efficiency. If Arthur Kill converted to similar fuel, the annual emissions of SO_2 would increase from 5,291 tons to 26,770 tons, and the annual emissions of particulates would increase from 188 tons to 9,750 tons, assuming a 90% precipitator efficiency.⁵ DAR noted that Con Edison did not show whether the 24-hour standard would be exceeded, but showed only a percentage increase. DAR believed the short-term impact was more significant than the annual average.

Charles Komonoff drew up figures for the emission impact of tons per day for SO_2 and particulates, which dramatized the short-range impact. According to Komonoff, using .3% sulfur fuel oil, there would be 14 tons per day of SO_2 and .51 tons per day of particulates. For Ravenswood #3 the figures are 17.46 tons per day and .67 tons per day, respectively.⁶ Level of precipitator efficiency had a significant effect on the level of emissions. Thus if during the time of the variance, precipitator efficiency were reduced, the city would have no way of controlling the impact from the use of coal. Con Edison's precipitators at Ravenswood and Arthur Kill #3 had not been tested since 1972.⁷ The cost for upgrading the precipitator at Arthur Kill #3 which was not operating at the highest possible level of efficiency, would be substantial; Con Edison did not appear willing to undertake

such an investment without guarantees that coal would be used for a substantial period of time. Unfortunately, Con Edison's precipitators had a history of breakdowns, and the City had to consider the impact of this possibility.

By the March 1974 hearings, CEPA was in a better position to use the hearings for purposes of clarification and analysis of Con Edison's application for a variance. Con Edison had claimed in the past that the use of highstacks at Ravenswood and Arthur Kill were a positive factor in the dispersion of emissions, and so was responsible for smaller contributions of particulates in the immediate impact area. DAR challenged this contention, believing that the longer the gases were in the high stacks, the greater was the possibility that harmful sulfates would be formed, which are more dangerous than either SO₂ or particulates alone. Lacking EPA published standards for sulfates, made it difficult for DAR to estimate exactly what constituted safe levels. At the March hearings, DAR asked Freudenthal to provide additional data on this subject, the substance of the somewhat irrelevant response was that the largest source of sulfates was the breaking of ocean waves!⁸

Another dispute over facts which occurred at the March hearing concerned particulate emissions. Jeff Cohen, President of Citizens for Clean Air, discovered that in spite of a Con Edison projection that the annual average of particulates would be 1.7 micrograms per cubic meter, it was actually 3 micrograms per cubic meter. Freudenthal explained that the earlier projection assumed the fuel burned at Astoria

had a higher sulfur content than had been assumed. This example highlights one of the problems that CEPA encountered - the difficulty of estimating the impact of fuel on air quality when sulfur level was unknown, largely because data on fuel availability and supply was lacking.

In an effort to develop their own information base, the environmental agencies took extraordinary measures. They confronted the oil suppliers directly for estimates of conforming and non-conforming fuel oil when the Emergency Energy Task Force was unable to obtain the information from Con Edison. The Task Force also called upon the oil companies to learn of the possibilities of spot purchases, the information to be forwarded to Con Edison. EPA Deputy Regional Administrator Outwater personally contacted NEPCO President Ed Carey in January 1974 to determine the extent of NEPCO's supply shortage, which would affect its commitments to Con Edison. The Emergency Energy Supply Task Force consulted with John Lichtblau of the Petroleum Industry Research Foundation (an occasional consultant for PSC), and with Jeff Bye of Shell Oil to obtain information of current prices and supplies. The Task Force called the coal companies to verify Con Edison's price estimates and discovered that coal was not as cheap as Con Edison had led them to believe. Even the Coast Guard was contacted in an effort to learn what tankers were in the harbor and what was their destination. Although as a condition to the November variance, Con Edison was required to make monthly reports, EPA Regional Administrator Gerald Hansler stated that EPA was not satisfied with their quality; in order to keep closer scrutiny of the

situation, he asked Luce to provide weekly reports on the fuel supply situation.⁹ DEC was also dissatisfied with Con Edison's report on the flue gas desulfurization required by the November variance. Con Edison had asked for an extension of time for the report, which was barely met; the report shed little new light on the subject, anyway.¹⁰

Summary

Both cases were situations where specific action was called for and extended delays could have serious repercussions. Options open to decision-makers were limited because of the absence of comprehensive analysis and information. The dominant concern of decision-makers was to ameliorate the pending crisis, and although attempts were made to acquire independent sources of data, the regulators had to depend on information from those being regulated. During the energy crisis of 1973, however, as environmental agencies were able to establish their own sources of information, primarily through research, and to become less reliant on the utility they were regulating, the time factor became a less crucial variable.

Proposition 2: Where uncertainty is high and time is a constraining factor, crisis pressures enhance the value of information as a resource in the competitive decision-making process. Available information is accepted because crisis prohibits further search.

Time pressures create a need for immediate action. Crisis adds the threat of dire consequences if the problem is not resolved. These pressures limit the alternatives which can be sought. Where expediency

is a factor, pre-gathered information is particularly valuable since it provides decision-makers with an immediate resource to direct them toward an objective. In crisis situations, if information is not readily available or is elsewhere controlled, authority (as discussed in Proposition 1) is even more severely limited.

When the information resource is inadequate, in crisis situations the need for immediate problem resolution increases the likelihood that decisions will involve less risk and constitute a more conservative approach. In these decision situations, government action was called for to obtain immediate relief. Government responsibility includes preserving its authority and its control over a situation in a crisis. The lack of time to consider alternative solutions to a problem limited the degree of public debate, thereby closing off discussion of underlying causes of the problem and concentrating the efforts on symptomatic cures. "An effort to avoid uncertainty may cause decisions to be made in the context of too narrow a "system" or framework. Moreover...there appears to be a tendency for uncertainty to produce a bias toward over-conservatism, toward routine ways to solve problems."¹¹ Established ways of handling problems are more comfortable because they present fewer risks. However, once such a pattern of decision-making is established, the tendency may develop to resist further attempts to enlarge the scope of the issue. Therefore, resolution of conflict situations may result in a form of "satisfying" or "making do" for now.

The Astoria Controversy

Crisis heightened the effects of inadequate resources. In the Astoria controversy, the pressures of time limited the City's ability to find alternatives that could meet Con Edison's demands. It was too late to search for alternative sites to meet the utility's time schedule, which left Astoria as the only possible solution.

In July 1969, when Charles Luce first informed Mayor Lindsay of the plan to construct Astoria #6 and #7, he described an extremely serious situation if action were not immediately taken. Luce warned that unless a new generating facility was built, Con Edison could not be expected to meet the electric demands of the City. Con Edison was particularly concerned with the time factor because the lead period for the Astoria construction, which was on an existing facility site, was approximately $4\frac{1}{2}$ years and would be $5\frac{1}{2}$ to 8 years at a new site. Moreover, Con Edison had other problems in its system to worry about. Construction delays at the Indian Point nuclear plant were blamed on labor strikes and environmental opposition. The purchasing of power, according to Luce, was expensive and at best unreliable.¹² Increased use of gas turbines was likewise expensive. Con Edison offered the City no other solution for the crisis situation it forced upon the city. Con Edison promised the City a power crisis by 1974 if the Astoria additions were not built, because no other plant could be ready in time to prevent such a power shortage.

Con Edison forced the City to seriously weigh the possibilities of continued power failures. Its scarce information resources could not

counter FSC and FPC recommendations which supported Con Edison. The City had to act quickly and approve the plant to avoid the brown-out horrors promised by Con Edison. The shortness of time for considering both alternative solutions and the lead times required to prepare other sites increased the value of information, but there was no opportunity for the City to acquire information that was not already available. Lack of information and time forced the City into a competitive bargaining situation where bargaining became a substitute for information.

The 1973 Fuel Crisis

During the 1973 fuel crisis, the problem for Con Edison involved maintaining adequate fuel supplies for the generation of electricity. Since the major portion of Con Edison's residual fuel oil originated in the Middle East, the Arab embargo could have potentially affected it. If the City did not allow Con Edison to burn higher-sulfur content fuel oil and coal, which Con Edison claimed was available, the utility warned that the City's generating capacity would be impaired. By November 1973, the national fuel situation appeared to worsen and Con Edison filed an application for a variance to the City Air Code, necessitating a governmental response. Had the City tried to delay the application to increase its store of information, and had a power shortage then occurred, city officials would have been held responsible - and they assuredly did not want that responsibility.

The federal government gave the City no indication that the crisis would subside. President Nixon supported a temporary relaxation of

environmental standards, a policy the City was trying to resist. FEO, which had been handling the allocations of gasoline and home heating oil, gave no indication that it would adopt policies to reallocate residual fuel oil to utilities or to try to divert low-sulfur fuel to metropolitan areas where the effect of non-conforming oil on air quality would be most harmful. If FEO had indicated that such action would be forthcoming, it would have provided guidelines to the City in establishing alternative policies for relieving the crisis.

Although EPA recommended that conservation measures be taken before variances were granted, it was not yet known whether conservation measures would be enacted or, if they were, how effective they might be in cutting demand for electricity. Effective conservation measures could potentially cut electric power demand, but no estimates were made in FSC projections of future fuel supply needs for electric power generation. Conservation measures in the form of legislation or administrative regulations would take some time before they could be implemented and their effect made known.

The time factor forced EPA to modify its procedure for the issuance of variances. The EPA regions were advised to quickly develop a strategy for evaluating the many requests for variances that were being received. EPA hoped that it would be able to thwart, by blanket relaxation of restrictions on the sulfur content of oil, any attempt to amend the Clean Air Act of 1970. EPA also feared that if the utilities ran out of oil, the demand for coal would increase, thus straining the coal market. EPA headquarters in Washington advised the regions that

the time between public notice of hearings and hearing dates could be reduced. The effect of this on local environmental agencies was to generate immediate action. However, EPA warned that oil companies needed lead time to obtain fuel, and headquarters needed time to evaluate the applications. Because EPA was soon overwhelmed with applications for variances, the regions were asked to give preliminary analyses justifying the need of a variance in each state by November 9, 1973. EPA said it would supply the regions with technical support for discussions with the suppliers in addition to air quality analyses. These procedures were to be temporary for the period of the projected winter's fuel crisis. The Con Edison variance application procedure was acted upon in this framework. EPA notified DEC that hearings could be held on 10 days notice instead of the required 30 days in view of the PSC certification of insufficiency already obtained by Con Edison. The local environmental agencies, with severe time constraints operating, seemed to possess little discretion other than to determine by exactly how much environmental standards would be relaxed.

The failure of the national and State governments to offer guidance or hard information on the fuel situation reinforced the crisis pressures that were limiting the options available to City officials. Data could not be put together fast enough to make a substantial case supporting the maintenance of environmental standards. The sense of panic left little time for careful analysis of the data that was available, let alone for a search for additional sources. Because information on available fuel supplies was unavailable, no environmental agency could

effectively challenge Con Edison or its regulatory agencies on that issue. Because the situation demanded immediate attention, officials were compelled to either stabilize the situation or suffer the wrath of the public.

Proposition 3: The absence of advance planning, scanning, and analysis, and goal or priority formation on the part of any of the actors limits the options perceived by them and weakens their commitment to seek a particular outcome. The greater the prior analysis and goal identification of an actor, the greater its influence on decision outcomes, other things being equal.

Advance planning and information gathering mechanisms are political resources. As in Proposition 1, where information controlled by clients limited the authority of the government agency, the absence of preformed goals also limits options because decision-makers are unprepared to cope with the situation and have no focused goals, values, priorities, or assumptions. Bargains will be accepted by the government agency after only formal bargaining with private actors to resolve value conflicts which would otherwise require comprehensive analysis.¹³ In situations where private actors can threaten to take reprisals, interference with agency integrity can occur as pressure increases to reach a compromised solution.

The absence of prior planning by an agency may limit general public involvement and interest. The lack of routine mechanisms for securing input from the public and other government agencies limits both the

amount of new information generated and issue awareness.

Inadequate information, crisis pressures, and the absence of preformed planning (Propositions 1, 2, and 3) combine to restrict options open to decision-makers in a competitive bargaining situation. The existence of each of these factors cuts into the authority of an agency affecting the range of outcomes of decision situations.

The Astoria Controversy

In this decision situation the greater experience of the private sphere in preformed activity was a significant political resource. The planning function for providing adequate electric power generation was performed by Con Edison without either consultation with the City or its electric customers.

Although Con Edison submitted a Ten Year Program to the Mayor in 1966 and a revised Ten Year Program in 1969, the City not only lacked the jurisdiction to review it, but did not have staff qualified to evaluate it. Con Edison's revised Ten Year Program was submitted as an addendum to the original proposal for the Astoria #6 and #7 plants. Con Edison stated that the revisions were due to delays in the installation of new equipment and to upward projections of electric growth rates. The program included current available capacity, sources of additional power (e.g., new plants, gas turbines), planned purchases through 1972, and proposed retirements.

Con Edison subsequently made public a Twenty Year Plan in 1972 and a Twenty Year Advance Plan in 1973, fulfilling requirements of the 1972 New

York State Public Service Law* which required annual reports on long-range plans. The law required utilities to demonstrate how the forecasted growth rate would be met while satisfying environmental and economic constraints. Con Edison's plan was similar to its 1969 program in that it listed new facilities to be constructed, facilities to be retired, and expected purchases of power. A new feature was the inclusion of funds to be committed to research and development programs of the Electric Power Research Institute. Con Edison forecasts were based on growth projections of the various users in the City and the economic conditions of the service area.

Con Edison's thoroughness in planning to meet its primary objective of satisfying electric power demand appears in stark contrast to the activity of the City, devoid of dependable statistics and analysis. The City, lacking ongoing regulatory and oversight functions, commanded no substantive policy or objectives with which to evaluate Con Edison plans.

The 1973 Fuel Crisis

Con Edison's long-term strategy was to resist regulations limiting the sulfur content of the fuel it used. When the Arab embargo began in the fall of 1973, Con Edison was well-prepared with arguments to

*Public Service Law, New York State, Section 149-b, "The members of the New York power pool shall prepare and submit annually to the department...a single comprehensive long-range plan for future operations drawn pursuant to regulations issued by the commission."

support the position of increased purchasing freedom in the fuel market. Con Edison had available estimates of plant capacity, fuel reserves, and anticipated supplies of conforming fuel. In order to generate public support for its position, Con Edison calculated the cost savings to the consumer if high-sulfur fuel were allowed.

The City, on the other hand, had no comparable experience with such statistics with which to challenge Con Edison's presentation. Other than the Municipal Services Administration's involvement with problems of local fuel supply and delivery, the City had no prior need to analyze fuel supply data, or even to prepare plans to assist Con Edison in meeting its fuel supply requirements.

One alternative that was stressed at all levels of government was the use of conservation measures to reduce the demand for fuel. However, there were no reliable estimates which the City (or any other level of government) had at its disposal to determine the amount of energy savings that conservation measures would represent.

The paucity of government activity in fuel supply problems enabled Con Edison to assume the function of determining the energy requirements for its own service area as well as how it would meet them. The City, forced to define the problem solely as a supply crisis situation, accepted bargaining as the strategy. On the short term, the city made concessions to Con Edison because their options were limited even before the bargaining had begun.

At the time of the 1973 fuel crisis, no substantial planning had been done by the City toward developing either an energy policy or

procedures which would minimize pollution effects in the event of a fuel shortage. The City had never monitored Con Edison's oil supply system and had no knowledge of Con Edison's fuel needs or sources of supply. Con Edison's crisis analysis left the city insufficient time to gather its own information and develop contingency plans to cope with the kind of emergency situation which was facing the City. The absence of this kind of preformed activity by the public sector reinforced the strength of Con Edison's analysis of the crisis situation in the political sphere.

Proposition 4: When policy objectives of governmental actors are uncertain or in conflict, the impact of positive government action is diminished.

Administrative authorities are pressured to maximize organizational objectives which help shape policy decisions. One of the responsibilities of environmental agencies is to act as a watchdog to insure that actions taken in both the public and private sectors do not cause environmental deterioration. Utility regulatory and advisory agencies are concerned with providing reliable electric power at levels demanded by users. Where power plant siting is at issue, these two sets of objectives come into conflict; the power agency is less concerned about the environmental impact of the new plant than its ability to provide electricity. From the environmentalist's perspective, any negative impact should be minimized, requiring either a change of site or additional expenditures for pollution control equipment.

For City government as a whole, the choice or the tradeoff between two objectives was never resolved. When goals of actors are well-defined, strategy designed to meet objectives can be more precisely formulated. However, when multiple and ambiguous goals predominate, the path of action is less clear. Action is taken then in response to external stimuli while actors try to satisfy more than one goal simultaneously.

Wildavsky comments: "The larger the number of objectives...the greater the number of interests they encompass."¹⁴ These potentially conflicting objectives are best resolved in the political arena.¹⁵ However, when goals of actors conflict and resources are unevenly distributed, the outcome in the political arena may be skewed before bargaining occurs. Moreover, competitive values held at different levels of jurisdiction may lead to conflicting policies, which in turn may hamper the development of coordinated activity and planning.

The Astoria Controversy

In the Astoria controversy, City officials were faced with a dilemma defined as a conflict between power and pollution. If the City approved the two new Astoria plants, it ran the risk of violating air quality standards and jeopardizing the health and safety of its citizens. The areas of the City which would be most affected by emissions from the Astoria plant were those areas which did not yet meet federal air quality standards. According to EPA, these areas would be unable to do so with the addition of increased emissions from the Astoria

plants. If the City prohibited Con Edison from building the plants, subsequent power failures could impair the safety of New Yorkers and have severe political repercussions; the onus would be on City officials. Both brown-outs and air pollution alerts during the summer of 1970 dramatized the seriousness of the situation.

Each administrative level of government was subject to different pressures, different constituents, and different procedures for carrying out their mandates. These variables helped shape agency values and policies. In both the cases under study, there was incompatibility across hierarchical levels as well as within any given level. Due to fiscal pressures, New York City was particularly susceptible to pressure by local industry and real estate groups. Their view was represented by Ken Patton of the Economic Development Administration, a member of ICPU, who argued that the City was dependent on industry for its tax base, and that higher electric costs and poor service encouraged resettlement outside the City, with reduced City revenues resulting. He also warned that power shortages would hamper the City's goal of creating 3,000 new jobs.¹⁶ For business and industry, if there were a choice between power and clean air, the former would be preferable.

Fulfillment of policy objectives on one level of government may be stymied because of conflicting policy objectives on a higher level of government. CEPA argued for a comprehensive policy toward power plant siting because it was concerned with the environmental impact of unlimited and unplanned electric demand. EDA's policy of unlimited

office space construction conflicted with CEPA's thrust of energy conservation. When CEPA tried to expand the issue to examine the implications of continued electric growth, it was hampered by the PSC policy of supporting continued electric growth.¹⁷ On the State level, PSC had had more independence to protect the interests of its constituents, the utilities, than had the newer DEC. PSC policy had encouraged electric heating, the building of plants close to urban centers, and the construction of larger units (whose outages would have a greater effect on the system).¹⁸ PSC policies, such as the inclusion of promotional advertising in computing the rate base while omitting the environmental costs of electric power generation, made it difficult for a local environmental agency and DEC to authoritatively develop a policy toward protecting the environment. CEPA received little support from DEC, which quickly approved the Astoria expansion and effectively removed any State objection based on environmental effects. With each environmental agency producing different analyses of environmental impact, no authoritative assessment existed. This disparity over the effects on air and water quality made it extremely difficult for newly formed environmental agencies to force power or energy agencies to include environmental considerations when power plant siting decisions were made. The failure to resolve conflicts among different value systems among hierarchical levels placed the problem in the political arena. The actor who could clearly define his objective - and demonstrate the potentiality of greater risk to the public if such goals were not met - had a sizeable advantage. The problem of adequate electric supply was

addressed in a limited form, and only when external events forced the problem to appear as a crisis. Such a crisis occurred again in 1973.

The 1973 Fuel Crisis.

By 1973, CEPA had tightened air quality regulations and reduced the amount of sulfur allowed in fuel oil. However, Con Edison still presented a problem for CEPA. In 1970, after Con Edison had been granted a variance to burn coal at Arthur Kill only if necessary, it was discovered that Con Edison had violated the variance by working the plant at capacity. PSC restrained CEPA from filing a court suit, insisting the City did not have the authority to regulate power. The conflict between the environmental values of CEPA and the power concerns of PSC continued into the fall of 1973. PSC refused to lower its reserve requirements for utilities and immediately granted Con Edison a certificate of fuel insufficiency. CEPA's options were only to decide what level of sulfur should be permitted and whether coal should be allowed as an alternative to oil. CEPA wanted a fuller investigation of the situation, but pressure by PSC forced DEC to grant Con Edison its variance. PSC continued to denounce CEPA and EPA for not allowing coal at Arthur Kill #3 and Ravenswood #3.¹⁹

In trying to formulate a course of action for the City, CEPA had to establish what fuel oil would be available to Con Edison before it would feel compelled to allow the burning of coal. Since FEO had failed to respond with mandatory allocations of low-sulfur fuel oil, CEPA had to act on the DEC exception to the SIP before it knew in actuality what

the fuel situation would be. Although EPA was asked by FEO to designate areas which should receive low-sulfur fuel, until a mandatory allocation program was underway, there would be no effect on current allocations of fuel, and CEFA planning was therefore hampered.²⁰

The policy of EPA - that any conversions to coal be limited in number and be short-term in nature - turned out to conflict with FEO encouragement of coal conversion by any utility that had the capability to convert.²¹ This confusion left the city with little idea of which set of objectives the national government supported.

EPA supported the City, stating that economic savings should not be considered as a factor in promoting conversion to coal. "The EPA must show that it is aware of the cheaper coal cost factor, and attempt to prove that such costs are usually less onerous than the utilities argue...in the interests of public health."²² This policy put EPA into direct conflict with both FEO and local power authorities.

At times EPA also appeared at odds with the white House, which advocated legislation to relax air quality regulations, because the high cost of low-sulfur fuel was inflationary. Russell Train said he would oppose the President on such measures as designating tall stacks as a pollution control device and eliminating the non-deterioration clause of the Clean Air Act. "Energy problems are providing an opportunity for people to attack the environmental movement."²³ FEO seemed to have more influence with the President; Train reported he had seen very little of the President since he had taken office, while the FEO director saw him twice a week.²⁴

CEPA itself had multiple objectives. The Emergency Energy Supply Task Force was responsible to CEPA Administrator Low. The Task Force dealt primarily with the fuel shortage, but it had to consider the environmental repercussions of its actions. On one hand it was required to ensure that the City had adequate energy, and on the other that air quality would not deteriorate. Moreover, the departments of Purchase, Rent and Housing, Consumer Affairs and Corporation Counsel, all handled some aspects of the fuel crisis problem. A department with separate goals could potentially pursue a path satisfactory to its specific set of goals but in direct conflict with another department's.

Different perceptions of risk resulted in different decisions on all three levels of government. DEC took the most conservative position, allowing coal at both the Ravenswood and Arthur Kill plants and high-sulfur oil throughout the Con Edison system. ECA allowed coal to be burned at Arthur Kill and high-sulfur oil at all other plants. CEPA prohibited coal at any Con Edison plant but allowed a higher-sulfur oil to be burned at other Con Edison plants. Among the environmental agencies, conflicting policies emerged because of different perceptions of the electric power risk and commitment to environmental goals.

Much of the actual decision-making was done on the local level. Local governments are particularly vulnerable to business and real estate lobbies, particularly in New York. Since national guidelines were absent, numerous agencies on a hierarchical scale had a role in the resolution of conflicts, a situation that brought to the surface underlying conflict between energy and environmental agencies in the

form of conflicting goals. "All multiplicity of decision-centers, in the form of either independent governmental units or subsystems within large organizations, exercise a degree of legal or de facto autonomy in pursuing goals which may or may not relate to comprehensive environmental planning."²⁵

When an issue is characterized by numerous decision-making centers pursuing conflicting goals, perceptions of risk, clarity and strength of goal become important factors in determining outcomes.

Proposition 5: Where the characteristics of decision-making situations discourage definitive action and evaluation of hard data, they tend to emphasize the dissemination of symbols.

Symbolic action fosters satisfaction and reassurance to those to whom it is directed. Symbolic acts may be aimed at the public, interest groups, or private functions to assure them they are being understood. Symbolic actions attempt to placate a constituency. Crisis situations are particularly susceptible to symbolic actions because of the time constraints that make substantive policy changes unlikely.

Language justifying actions may give the impression that public interest is being protected. Where public knowledge is at a low level of understanding, there is a greater tendency toward symbolic and reassuring language.²⁶ "The most obvious kind of dissemination of symbolic satisfaction is to be found in administrative dicta accompanying decisions and orders, in press releases..."²⁷ When the real decision

is not on the agenda because of a crisis situation, symbolic action may substitute. Edleman suggests that statutes may be symbolic by containing "strong assurances that the public or public interest will be protected" and states that "the most widely-publicized regulatory provisions always include other operational standards connoting fairness, balance or equity."²⁸

The Astoria Controversy

The Memorandum of Understanding of August 22, 1970, created the illusion that differences were being reconciled; however, misleading statements and promises concealed the conflict that still existed. In 1970, CEPA could expect support from interest groups by using symbolic language which justified its decision. The Memorandum was a conciliatory exercise containing language aimed at satisfying environmentalists as well as those supporting Con Edison. The following examples are illustrative.

(1) Oftentimes public decision-makers will say they will act on an issue when they know constraining factors will prevent the action from occurring. This is the symbolic aspect of a compromise or agreement which is placed there to offset the concessions that have been made. In order to reassure the general public that the City and Consolidated Edison considered environmental protection a foremost priority, it was agreed that Con Edison would make every reasonable effort to obtain natural gas for the Astoria plant (natural gas being preferable to oil or coal because, although emissions of nitrogen oxides remain constant,

sulfur emissions are negligible). However, this new Memorandum between Gen Edison and the City contained some inherent contradictions.. In one paragraph FPC and PSC advised the City that a new plant exclusively using natural gas was unrealistic, given the current shortages of that fuel. In a later paragraph the Mayor explained that his decision to reduce the plant size at Astoria from 1,600 MW to 800 MW was based on the "...failure of the FPC to allocate natural gas in sufficient quantities to power a 1,600 MW expansion." This section of the Memorandum of Understanding reflected the pessimism concerning the use of natural gas. Luce had said he was prepared to use natural gas, but "at the present time natural gas is not available in the required volumes."²⁹ In a subsequent statement he said he could not build the Astoria plants if they depended on natural gas.³⁰ FPC advised the Mayor that no new quantities of natural gas would be made available for Astoria.³¹ PSC confirmed this view, stating: "From what we know of the natural gas situation, it would not be realistic to expect that the Astoria units could be fueled by natural gas...."³²

(2) These opinions were interpreted in the Memorandum to mean that if FPC, which controls natural gas allocation, approved the Astoria plant expansion, then a decision to make natural gas available was implied. "Since the FPC also controls the allocation of natural gas throughout the country, this represents a decision as much as an opinion."³³ This logic was the basis for including natural gas as a condition for approval by the City of the Astoria expansion, effectively ignoring the possibility that FPC might have approved of the plants without any

commitment to providing natural gas. In essence, the Memorandum said it was unlikely that natural gas would be available, but Con Edison must make every effort to obtain it. The reliance upon natural gas and its inclusion in the Memorandum was an attempt to make the City's decision more palatable to the broader public, especially environmental interests. The promulgation of conditions which all parties knew could not be met was a strategy in which no participant could lose. No one could be held responsible if the conditions were not met. It was a symbolic gesture lacking any substance or measure of reality.

(3) Another example of symbolism designed to make the Agreement more palatable to all parties involved the actual shutting down of power plants. The 1970 Memorandum contained a provision stating that if the City found air code being violated, it would close the plant involved. This was based on a recommendation of ICPU in its majority report to the Mayor. Realistically, it would have been extremely difficult to close an operational plant which provided baseload power without incurring opposition from a public which feared brown-outs and blackouts. Moreover, there most likely would be opposition from utility regulatory agencies, Con Edison and its investors, to any proposal which would close a plant that cost over \$300 million. (In fact, Con Edison argued before the Army Corps of Engineers that it had already committed \$120 million and spent \$30 million with the assumption that it would get the necessary government approval.³⁴ The utility apparently attributed so much weight to the argument that it actually began construction before the necessary State permits were issued). This plant-closing condition of the Memorandum was another attempt by the City to make it appear

no environmental damage would be done, although EPA definitively said that any additions to the Astoria complex, even with lower-sulfur fuel, would prevent certain areas of the City from meeting federal air quality standards. It was a symbolic move by the City to demonstrate that regulatory functions were being exercised by the City.

(4) Vague language in agreements which later generate loopholes or oversights may be the result of an attempt to keep something controversial off the agenda. Such acts are symbolic since they are geared toward eliciting public support while realities are masked or ignored. The 1970 Memorandum contained an omission which some City officials later said was a result of ignorance, but which a Con Edison representative said was an intentional omission involving the tacit understanding of the Mayor.³⁵ The subject was the use of gas turbines, which use expensive distillate oil, pollute more heavily, use 5% more fuel per megawatt output,³⁶ but have the advantages of being more quickly constructed and being mounted on barges near steam generating sites. In the past Con Edison had employed gas turbines to meet peak needs without supervision by the DAR. Since gas turbines technically are not boilers, the City did not consider their use to be in violation of the 1966 Memorandum, which prohibited the building of new fossil-fuel plants in the metropolitan area. According to City officials, Con Edison had informed the City neither of the extent to which gas turbines were being employed nor their level of emissions. Subsequent spot checks by DAR revealed that in some cases they were being used for base-load generation. DAR also discovered that there were

15 MW of gas turbines operating at Astoria.³⁷ The omission of gas turbine regulations in the 1970 Memorandum was a loophole which Con Edison could use to fill in gaps in its system without stringent regulation. If the omission occurred with knowledge of the City Hall aides who drew up the Memorandum, it may have been part of a bargain made with Con Edison in exchange for reducing the Astoria plants by half. Gas turbines could make up for a small part of the missing 800 MW which were denied Con Edison. Nevertheless, the gas turbine situation was an example of the City being unable to take tangible action, and therefore ignoring the problem.

Symbolic action may be seen when appeals are made to the public interest. Referring to vague values which are widely accepted invokes positive responses, although their meaning may not be clear. The values do not have to be explained because of the natural emotional response forthcoming. For example, everyone wants to protect the environment, but definitions of what that means to each community or individual differ and require specific programmatic analysis, which may actually promote controversy. Ambiguity of language facilitates agreement and flexibility to bargain.

Proponents of the Astoria expansion tried to legitimize their position by demonstrating their concern for the public interest and symbolic appeal to accepted public goals. It was contended that Astoria #6 and #7 were needed to meet base-load requirements.³⁸ According to Con Edison, part of the need was due to environmental demands requiring increased electric power (i.e., environmental waste treatment abatement

facilities,³⁹ mass transit and air conditioners).⁴⁰ Additional power was also needed to create new jobs resulting from construction of new office space, the Second Avenue subway, and additional fire and police stations.⁴¹ The creation of these jobs was suggested to generate income for the City. A class-struggle argument was even raised, implying that power was needed to service appliances that the poor were struggling to aspire to, and which the middle class already owned.⁴² To meet all these needs, Con Edison estimated that it needed 450 MW of new generating power each year.⁴³ Thus Con Edison's needs for additional power plants were a result of public demand for increased service. However, according to CEPA, the problem of adequate power was not one of base-load capacity but one of meeting peak demand, which could be seen from the increases needed in reserve capacity during the summer months. Con Edison also claimed that without Astoria #6 and #7, the power shortages resulting would encourage industrial abandonment of the City. The validity of these assertions could not be challenged in the time available. Alternative explanations therefore had to be overlooked (i.e., increased taxes, expensive labor market, and the quality of life).

Since clean air was the issue at hand, Con Edison appealed to environmental goals. Con Edison attempted to demonstrate that the air would be cleaner with the Astoria additions by showing how effectively emissions had been reduced, from 1966 to 1971, predating emission control laws.⁴⁴ Con Edison predicted that when Astoria was converted to low sulfur fuel, with the additions, total sulfur dioxide emissions would be

76% less than in 1966.⁴⁵ These statistics do not, however, project whether federal air quality standards will be met.

While Con Edison publicly supported reduced emissions, at hearings it privately opposed laws or regulations which reduced the sulfur content of fuel, even though the reason emissions had already been reduced was the use of cleaner fuel. Luce publicly stated that the use of low-sulfur oil would be compatible with environmental goals.⁴⁶ Con Edison was optimistic that they could obtain low-sulfur oil. "Today we are confident that we can obtain enough .37% fuel oil for the new capacity, and probably for the entire plant...."⁴⁷ Con Edison said it would use .37% sulfur oil at Astoria by the spring of 1972.⁴⁸ However, the proposed Air Code required .3% sulfur oil after October 1972, anyway. Use of .37% sulfur oil at Astoria in return for permission to expand was therefore a symbolic statement and a misleading benefit.⁴⁹ Nevertheless, at subsequent hearings on the proposed new Air Code, Luce testified that low-sulfur fuel would increase fuel costs, which would eventually increase taxes, rents, and electric bills.⁵⁰ Luce said that if low-sulfur oil were cheap enough, Con Edison could convert all existing boilers.⁵¹ (However, the lower the sulfur content in oil, the higher the cost of the fuel becomes). Luce suggested that October 1, 1971, was too soon for Con Edison to obtain .3% fuel, which would not make that much of a difference.⁵² Oil companies agreed with Con Edison that the cost was too high and adequate supplies could not be guaranteed.⁵³ However, a reduction from .37% to .3% represents a 20% reduction in sulfur emissions,⁵⁴ which would have been substantial. Eventually, the Air Code was revised

when Local Law 49 was passed, and Con Edison received a one-year extension allowing it to burn fuel with a sulfur content averaging .55%. Despite public statements supporting the use of low-sulfur fuel, Con Edison was able to postpone the requirements.

Publicly, Luce took an environmental position which was merely symbolic since privately Con Edison challenged the pollution regulations. Gains by the City in reducing emissions were made because of the City's strict regulations concerning the sulfur content of fuel, not by any initiative of Con Edison.

Opponents of the Astoria expansion contended that the real reason Astoria was needed was to ease Con Edison's troubled financial situation. Astoria was a capital expenditure and therefore could be included as a basis for a rate increase, since the rate per KW is based partially on capital investment. This gave Con Edison greater incentive to build new power plants rather than to seek other alternatives.⁵⁵ Higher rates would in turn attract more capital, with which further investments could be made.

Another way to assuage public opposition was with benevolent activity, that is, by offering the community benefits which represented a small outlay for Con Edison. Soon after Con Edison publicly announced its plans for Astoria, it contacted Queens political leaders. For their support, Con Edison offered to beautify the community. Recreational facilities planned included a football field, a track field, a volleyball court, and a basketball court. In addition, Con Edison promised to remove its two unsightly gas tanks and construct a new fence and

traffic entrance. Political leaders offered no substantial opposition until Astoria residents organized to oppose Con Edison. Con Edison hoped that it would obtain community support because of its efforts to provide recreational facilities and to make the plant as unobtrusive as possible.⁵⁶ Such action was symbolic because it tried to increase the satisfaction level of the community with benefits quite unrelated to the real issue.

Con Edison opposition to the Air Code's emission standards, stack emission regulations, and sulfur restrictions in fuel oil were stated in terms of saving consumer money to appeal to a financially overburdened public. Con Edison also projected itself as a company besieged by regulatory agencies. These two strategies were designed to relieve Con Edison of any negative effects of its actions and to upgrade Con Edison's public image.

The 1973 Fuel Crisis

Appeal to patriotism, another symbolic gesture, was implicit in Con Edison's proposal to burn coal as stated in its October 25, 1973, application to the City. Supporters of the variance argued that as a nation, less reliance should be placed on foreign sources of fuel. The strategy was designed to demonstrate the larger national benefits inherent in the variance. It supported the presidential theme of patriotic self-reliance and national self-sufficiency. The program corresponding to this national goal was to develop coal resources which were supposedly available nationally and which were cheaper than oil.

Con Edison claimed that coal would save 3.5 million barrels of oil from April 1, 1974 to December 31, 1974.⁵⁷ The best way to bring the world oil price down, and to reduce dependence on foreign oil sources, was to burn more coal.⁵⁸ Because coal was produced domestically, it was not subject to fluctuations in foreign policy. However, it was clear that if coal were to be used extensively, environmental laws would have to be relaxed.

The strategy of appealing to broad public goals was a second strategy used in support of coal. This argument had an economic rationale. If oil indeed was more expensive than coal, its use was a contributing factor to inflation since the consumer had to pay a higher price for electricity, which in turn pushed up the price for other goods and services. Tying electric power to economic prosperity during a time of unemployment and recession strengthened the argument. "The use of coal is certainly one means of relieving the financial hardships which have been placed on our customers."⁵⁹ The coal strategy was also an opportunity for Con Edison to attack the City's Air Code charging that it was too expensive. "We feel these authorities have not fully realized the enormous additional costs which our customers are being forced to incur in the interests of marginally cleaner air."⁶⁰ However, Con Edison officials reminded the public that they were not abandoning clean air goals, but seeking a temporary relaxation of the regulations in the interest of the consumer.⁶¹ By attacking the authorities and placing the responsibility of the high cost of electricity on them, Con Edison could demonstrate that it was concerned with the plight of consumers,

who were bearing the brunt of fuel costs because of the pass-through of any increased fuel charges. Con Edison argued that this financial hardship should be the basis for a variance to the Air Code. However, according to the Code, economic hardship could not be the basis of a City variance, and, as public knowledge, it must be assumed that Con Edison knew the City could not grant a variance on this basis.

Con Edison made other misleading statements. It told the State that, in exchange for permission to use coal, it would use coal only for the time that oil was unavailable. Con Edison promised it would purchase the lowest sulfur residual fuel oil reasonably available, work with the City and State for the best fuel use pattern, and enforce any conservation measures imposed.⁶² However, in another statement, Luce argued that once coal was established, it would be best to continue its use because of the difficulties in securing a coal supply line and the high conversion costs. He said Con Edison would ask PSC for financial compensation for the costs incurred from the burning of coal.⁶³ (Electric consumers would be paying for the costs of coal conversion). Luce argued that the use of coal was not as harmful as CEPA projected because the plants involved had high stacks and because Arthur Kill could be converted to coal on short notice, causing the least disruption to the Con Edison system.⁶⁴ However, high stacks were never considered by environmentalists as an air pollution control device and would not reduce particulate emissions which result from coal. These statements by Con Edison were symbolic since they ignored realities or were contradictory with other Con Edison positions. Con Edison thus

minimized the environmentally negative aspects in order to appeal to the broad public interest.

At the time of the March 1974 hearings, PSC was also conducting hearings on a proposed rate increase, and the mood of the public at the time was hostile toward Con Edison. The protests by consumers reinforced Con Edison's argument that coal would represent an economic savings to the consumer. Luce suggested again that irate consumers might benefit if coal were used.⁶⁵ It is of interest that part of the proposed rate increase that Con Edison was requesting from PSC (6.7%) was due to the conservation efforts by the public. Nevertheless, Con Edison argued that it needed an increase in charges to bring revenues to the previous year's levels.⁶⁶ The irony was that Con Edison was asking consumers to pay for the electricity that was not used, when consumers themselves were responsible for the energy savings. In Con Edison territory, conservation efforts did not benefit the consumer economically. The conservation campaign by Con Edison was therefore a symbolic gesture since consumers did not benefit economically for their conservation efforts if they had to pay more in the end.

In its public statements, Con Edison tried to show concern for the environment. It said it had asked for coal at the Ravenswood and Arthur Kill plants and not the Astoria plant for environmental reasons. Closer examination of the situation did not bear this out. At the November 1973 hearings, Con Edison said that if the crisis worsened, it would request variances at other plants - including Astoria. At that time, CEPA feared that if coal were permitted at any Con Edison

plant, the utility would later try to expand the use of coal to the Astoria plant. Fortunately for the city, a preliminary EPA report had made it known that Astoria was unacceptable for coal burning and would never be allowed to burn coal, making Con Edison's concessions not to burn coal at Astoria empty.

In any dispute, a convenient strategy is to create a scapegoat. The greater the emotional response of the public, the more support can be created. Actors may describe a situation as beyond their control and subject to the whimsical actions of a conspiring enemy. Con Edison cast itself in the role of an organization fighting to keep costs down but beleaguered by inefficient government bureaucrats who were unsympathetic to its financial plight and that of its consumers. In doing this, Con Edison pointed out the culpability of the government whenever possible. It even noted that some public schools still burned coal and that the City operated incinerators that had not been upgraded.⁶⁷

The image of Con Edison as an organization willing to fight government bureaucracy may have been intended for its investors. As a privately owned corporation, by utilizing natural antagonism between business and government, it tried to maintain an aggressive stance. Con Edison was supported by PSC in its attitude of resisting air quality regulations if they were not in Con Edison's best interests. The Chairman of PSC said, "It would be deluding ourselves to fail to recognize that the air quality program has aggravated and intensified the fuel shortage problem, and I believe the immediate threat of disabling shortages cannot be removed without applying reason in the drive for cleaner air."⁶⁸

After the Arab embargo on oil was lifted and oil became more available, Con Edison continued to campaign for the use of coal. The policy was justified as promoting economic savings for the consumer. However, according to government authorities, the Con Edison estimates of savings through the use of coal were exaggerated. CEPA estimated a savings of 40 cents per month, using the figures of \$37 to \$40 per ton, while Con Edison calculated the price of \$31 per ton. Con Edison overestimated savings by underestimating both the price of coal on the present market and the amount of electric power they anticipated purchasing from other sources.⁶⁹ The burning of coal brought with it other problems. There existed a shortage of trained labor, and both equipment and stocks of coal were unreliable because of long-term commitments to other users. (It would have taken from two to five years to secure adequate supplies of coal to meet Con Edison's anticipated needs since shortages were being reported by other utilities.)⁷⁰ These conditions would have forced Con Edison to rely on an inflated spot market (coal left over after contracts with long-term contract holders were filled). As it happens, Con Edison experienced difficulty in securing coal for the Arthur Kill plant during the time of the variance, and was able to burn coal only for four days before the expiration of the variance. Con Edison's position that the burning of coal would benefit the electric consumer did not conform to reality. Its arguments aimed at convincing the public that their interests were being considered were more characteristic of symbolic action.

It is questionable why Con Edison continued to pursue a policy of

coal burning when the realities of the situation made it so difficult to do so. Here are a few speculations. (1) It was well known that Con Edison did have a cash-flow problem at that time, and the use of coal would have enabled the company to have some leeway in paying off old debts. (2) It improved Con Edison's image to pursue a policy that could save its customers money, even if the policy was unrealistic. Even if coal had been cheaper, however, it would not have saved Con Edison any money directly because of the fuel rider pass-through, which would have decreased the customer's bill. (3) The ability to use high-sulfur fuel would enhance Con Edison's freedom in the fuel market by allowing the utility to burn whatever fuel it could get the best deal on. Prohibiting coal cramped Con Edison's maneuverability in the fuel market. If high-sulfur oil were competing with coal, Con Edison could hypothetically get a better price when the price of either fuel decreased.

The implementation of the statute requirements for public hearings on the part of government were symbolic gestures to comply with the law. Time constraints shortened the procedures involved in the hearing process. Both sets of hearings on Con Edison's applications involved less than the required period of public notice time, and insufficient time to prepare questions and testimony limited effectiveness of the investigation. Environmentalists complained of inadequate time to prepare estimates of savings in electric power consumption due to fuel conservation measures. Evidence of toxic health effects and in-depth analysis of the dispersion impact of SO₂ and particulates could have been submitted had more notice time been given.⁷¹ The hearings at times became

emotional as tangential issues were raised. This increased the pressure to get a decision formulated, eliminating the opportunity to examine the issues fully. For the most part, the information received at the hearings was not revealing. Although the hearings provided an opportunity to directly confront Con Edison, they fulfilled the function of legitimizing subsequent decisions made by the environmental agencies.

Accompanying the variances issued by DEC and CEPA to Con Edison were conditions which had the appearance of tightening control over Con Edison's impact on the environment but which were more symbolic than real. Close examination of these conditions reveals that their overall effect would be minimal. The PSC certification of insufficiency prescribed no enforcement powers for these conditions. Neither DEC nor CEPA possessed such authority, either. PSC recommended to DEC the checking of Con Edison's efforts to purchase power, the monitoring of its conservation efforts, and the forbidding of coal-burning when adequate supplies of conforming oil became available. No definition of the term "adequate" was given. DEC and CEPA variance conditions were similar although the decisions differed. Both required that if coal were to be used until March 31, 1974, stack gas "scrubbers" would be installed. This condition would not reduce pollution emissions during the period the variance was in force because no time limit was given to Con Edison for their installation.⁷² The DEC variance included the PSC conditions, but no mention was made of how DEC was going to enforce the requirements that Con Edison (1) encourage conservation; (2) burn the lowest-sulfur content fuel available, or (3) increase the base-load generation capacity of its

nuclear plants. No standards for conservation were set, nor were procedures for determining how vigorous Con Edison must be in locating the lowest-sulfur content fuel rather than the lowest priced fuel. Because of the high costs to Con Edison, the condition requiring it to install flue gas desulfurization equipment and submit a report on its feasibility gave little incentive to Con Edison to comply. Since New York City was a no-growth area, the investment simply lacked promise of a monetary return. Even before Con Edison submitted the report, it was known that flue gas desulfurization equipment would take longer to install than the period of the variance, and the expense for such a short period would be prohibitive.⁷³ In addition, a shortage of "scrubbers" for coal-fired plants made any such requirement for their use incapable of being met.⁷⁴ These variance conditions were symbolic in that they satisfied both legal requirements and the public, but carried almost no weight because of the absence of any enforcement and oversight procedures.

Summary

As demonstrated in the Astoria controversy, the environment was an issue that could be used by actors to create support for a policy if it appeared that the environment was being protected. Electric conservation had broad appeal. On the government's side it was primarily a symbolic appeal since the variances issued did not mandate that conservation measures be taken. Both the environmentalists and Con Edison publicly acknowledged that conserving electricity would help ease the

fuel crisis. The environmentalists hoped that the conservation of electricity would lessen fuel needs and thereby minimize the effect of pollution. Conservation of electricity would also reduce the possibility of fuel shortages by utilities, for which Con Edison blamed the environmentalists.

Although EPA maintained that conservation measures must be taken before any variance would be given, no tangible conservation action was taken.⁷⁵ While Con Edison and the fuel industry used conservation to dramatize the shortage situation to support the relaxation of air quality standards, the environmentalists used conservation as a means to maintain air quality standards. A situation developed where the participants in a decision situation, whose objectives were antagonistic, advocated the same symbolic policy.

Many actions taken in response to crisis situations are more legitimately attempts to increase public support than to reduce underlying conflicts. Often basic strategy is disguised with language appealing to broad public ideals to which all sides in a conflict can agree. The real decision may turn out to have less force and substance than suggested by official statements. Underneath the public layer of decision-making there existed in both the Astoria controversy and the 1973 fuel crisis a realm where the real decisions reflected competition between actors to have rules conform with their own programs and objectives.

Proposition 6: The less concentrated the formal

decision-making authority, the less is its influence on decision-making outcomes. Where there are unclear jurisdictional responsibilities, bargaining occurs to resolve these differences.

Fragmented policy-making in urban communities can be traced to institutional factors. Attempts to reform old machines by breaking up power through the establishment of pluralist mechanisms has, according to Theodore Lowi, had unfortunate consequences.⁷⁶ Power in many large cities is divided in such a way that the Mayor has little control of overall policy-making. Lowi cites examples of functional areas (e.g., welfare, water pollution, and civil rights) in which responsibility is divided among numerous city agencies, resulting in stalemated or conflicting outputs.

Where different levels of government share functions in one broad policy area, complex bargaining is one means of resolving differences. Sharing functions reduces the authority of an agency if the participants know that a decision may be subject to compromise on a different level of government. Agencies sharing functions may then search for a compromise that will satisfy all participants, and usually the participant with the greatest resources has the greatest influence in the outcomes. If an ultimate or coordinating legitimating authority is lacking, decisions made on one level of government in the same policy area may be inconsistent with decisions made on another level of government. Duplication of activity may not only result in inconsistency, but in

spent scarce resources. When an issue is never completely resolved but shifted to a different hierarchical level, both time and manpower can be wasted.

Agencies may choose to limit the boundaries of an issue to make the inevitable bargaining process more manageable. Limiting boundaries may also reduce the participation of some groups, thus enhancing the role of technical experts. Limiting the boundaries of an issue does not guarantee that the problem will be solved at any acceptable level. Therefore, although air quality standards may exist, continued inroads by granting variances to these standards will affect the overall policy of the national government to conform to the Clean Air Act.

Another feature of the multi-jurisdictional policy-making which affects the bargaining process is the protective stance each level of government assumes toward its own prerogatives. States do not like to relinquish power to the federal government, and local governments like to maintain freedom when implementing policy directives from other levels. Moreover, since decisions made in one locality may affect a much larger region than the local area's legal jurisdiction, bargaining occurs on increasingly higher levels of government. In many policy areas there is no appropriate level of government at which a conflict may be resolved.⁷⁷ When solutions to problems cut across existing political jurisdictions and corresponding authority is absent, fragments of the problem will remain in the domain of numerous competing authorities.

The Astoria Controversy

The approval of the Astoria expansion proposal necessitated action from both energy-related and environmental regulatory agencies. While a few of these bodies had formal power such as the granting of permits, others assumed advisory roles. Agencies at the local, state, and federal levels were involved, and the absence of a coordinated policy or procedure made swift and definitive action on the Astoria plan difficult.

A brief summary of the positions of the major involved agencies illustrates the potential for conflict. Within the City government CEPA opposed the project, while ICGU recommended approval. The State DEC granted a water permit for construction following PSC approval of Astoria in its overall acceptance of Con Edison's Ten-Year Plan, which included the Astoria expansion. The federal EPA opposed the expansion because of air pollution hazards and, although in 1970 it had no formal authority, by 1972 (after the Army Corps of Engineers permit program was promulgated) an EPA opinion was made binding. EPA contended that any additional generating plant should be built outside the City as part of an overall effort to reduce emissions in the City. FPC favored the Astoria expansion only after a careful search for other alternatives.

The actual environmental opposition to Astoria was based on the potential hazards of increased air pollution, although at that time there were no federal emission standards for stationary sources for Con Edison to conform to. The City's legal power to block Astoria was not based on specific air pollution regulations, but on approval of various permits (i.e., Fire Department, Department of Buildings, and

Department of Ports and Terminals). The power of the City lay only in denying permits which were non-environmental in nature. (The only environmentally related permit was for boiler installation from the DAR). The permits were so limited in scope that if the particular departmental regulation was met, there was little room for discretion by the agency.⁷⁸

The federal air quality standards that were promulgated in 1970 required enforcement by the State and were incorporated into the State Implementation Plan (SIP,) but opinions in CEQA and DEC differed as to whether the Astoria expansion would prohibit New York City from meeting those standards. Without agreement on the effect of the new generating facility, agreement on policy was made more difficult. Legally, the City could impose stricter standards than the State or federal government. Although this gave the local government more control over its air quality as well as responsibility for enforcement, it also left the locality open to pressure from other levels of government.

Lacking any authoritative power, the EPA position was to leave the matter up to DEC and Con Edison, hoping they would strike an agreement and figure out how federal air quality standards would be met. Legally the EPA's only power was to request that the Army Corps of Engineers deny the permit on the basis of water pollution, not air pollution.

The City possessed no agency that dealt directly with electric power supply problems. ICPU held only advisory power and could not enforce any modifications of Con Edison's plans, nor could it even compel

Con Edison to reply to ICFU objections. The City was therefore forced into a decision when the authority and responsibility really rested with State and federal authorities. ICFU acknowledged its limited powers in its report, saying that none of the city permits "go to the heart of the matter, i.e., whether the city consents to have a plant built within the city limits."⁷⁹ ICFU felt the State and federal governments should make the decision.

Although the City finally made a decision, which of course was incompatible with EPA recommendations, that decision could have been later modified by administrative procedures concerning State and federal discharge and construction permits. What occurred was a decisional process characterized by incompatible actions and occasional redundancy. It may be argued that this is not necessarily a harmful phenomenon because it allows additional time for review at different levels of government, which may bring forth new information. Nevertheless, without regularized procedures and clear jurisdictional lines of responsibility, ambiguity and confusion may also result. If three regulatory agencies yield conflicting judgments, the participant to be regulated can play one agency off against another by using the approval it gets from one agency as a basis for justifying its position regarding the others. Con Edison clearly tried to pressure both the City and EPA to change their opinions by using the approval they received from PSC and FPC.

The following anecdote illustrates the political pressure exerted by Con Edison toward NAPCA to force the reconsideration of its position regarding the Astoria proposal. William Megonnell, NEW Assistant

Commissioner for Standards and Compliance, met with Con Edison officials on July 24, 1970. Con Edison said it would be able to reduce the sulfur dioxide emissions by two thirds from 1970 to 1976. The conversation, according to Megonnell, was frank, and Con Edison wished its status to be reevaluated by NAPCA in light of both the new data and the approval of its Ten-Year Plan by PSC.⁸⁰ On the same day Kenneth Johnson of NAPCA met with Con Edison at the regional office in New York. Victor Hanson of Con Edison told Johnson that NAPCA was reconsidering its opinion. Hanson distorted Megonnell's words, for Megonnell explained that he had only promised to reevaluate the new data. Con Edison tried to make it appear as if NAPCA was retreating from its previous position and would act more favorably toward the Astoria proposal.

On July 30, 1970, Woodbury of Con Edison called Megonnell and suggested that if NAPCA was reconsidering its position, it should let the City know because there would be action by the City soon. Woodbury also acknowledged receipt of the permit for two electric generating stations (boilers #60 and #70) from the Department of Air Resources, signed by the Action Officer and with Rickels' name stamped on it. Woodbury doubted if Rickles ever saw it.

On July 31, 1970, Woodbury told Megonnell that Luce had talked with the Governor and Mayor and had received their written approval of the project. The Governor assured the Mayor he wouldn't "rock the boat."⁸¹ He hinted that the Mayor was expected to make a public announcement on August 3, 1970. He suggested that NAPCA might want to change its mind since the decision might embarrass the "feds." NAPCA would be the

only agency opposing the plant. He further suggested that NAPCA's opinion was based on incomplete information.

At the same time, the Regional Office of NAPCA informed the City that it was reevaluating the new data. The City EPA was simultaneously pressuring the Regional Office for more data in opposition to Astoria, even if NAPCA withdrew from its position. Megonnell notes that if the City cancelled its request for technical assistance, NAPCA would withdraw unless serious pollution was evident. When Rickles cancelled the boiler permit on July 31, 1970, he told Woodbury it was because NAPCA objected to it. Since NAPCA did not withdraw its opinion, we can safely assume Rickles or Kretchmer continued to press for its aid.

The same day, Megonnell was informed that Deputy Commissioner of Air Resources Hart denied that any permit had been issued to Con Edison and said he knew nothing of the Mayor's imminent decision. Mr. Fabricant, General Counsel for CEPA, said the permit was not authorized to be issued, but if it was, it would be an administrative mistake and would be rescinded. It was also reported that a Con Edison lawyer had advised CEPA through intermediaries that NAPCA was reconsidering its position. CEPA again asked the Regional Office for additional support against the Astoria plant. This reevaluation by NAPCA had become known to a New York Post reporter, who had been given a letter by Dr. Shy of HEW giving detailed health effects of the sulfur and nitrogen oxides involved in the Astoria expansion. This was the evidence NAPCA would use to substantiate its opposition to the Astoria proposal. Since both CEPA and the Post reporter knew about this reevaluation, NAPCA could no

longer retreat from its stand.

At 5:30 P.M. that evening, Woodbury called Megonnell and told him that Rickles had informed Luce that the permit was being cancelled because of federal objections. A telegram was allegedly sent to Con Edison revoking the permit, according to Fabricant. Woodbury also wanted to know what, if anything, NAPCA had told Rickles.

On August 1, 1970, Woodbury again called Megonnell's home and said he was concerned about Luce's testimony before Senator Muskie's Joint Committee on Atomic Energy. He asked for NAPCA's advice. Woodbury reminded Megonnell that NAPCA's original position was based on incomplete data. He noted that the impact of nitrogen oxides would be difficult to ascertain because of the numerous mobile sources in the area. Woodbury said that Kretchmer was putting the Mayor in a difficult position. "Kretchmer is attacking the Mayor. He submitted a minority report after Lindsay's mind was made up. The politics appear to have become heated and NAPCA is being placed in the middle." Woodbury also inquired how much Kretchmer knew. Perhaps he was asking NAPCA not to give Kretchmer any more ammunition which would embarrass NAPCA if the Mayor approved. Pumping Megonnell for information might have been a way to help Con Edison influence the Mayor's decision. NAPCA was placed in a difficult position by the pressures exerted by Con Edison. NAPCA officials did not change their position after the plant size was reduced to half by the Mayor, and it consistently and adamantly opposed the Astoria expansion.

These events illustrate how pressure tactics are used to influence

outcomes where jurisdictional responsibilities are unclear. Con Edison attempted to play one agency off against the other to maximize its position while at the same time it shifted its focus to higher governmental levels.

The State decisions to approve the Astoria proposal were not based on any clear procedure for power plant siting because none existed. There was no formal mechanism for the inclusion of environmental concerns in the PSC approval for new power plants. Long-term delays encouraged utilities to argue for streamlined procedures. Con Edison would have preferred a one-stop power plant siting process, making it easier for an agency to pressure local communities into approving a project. The lack of a concise policy toward power plant siting by power and environmental agencies was an important factor which resulted in open disagreement and conflict.

Another jurisdictional problem which occurred concerned pollution across state lines. NAPCA concluded that New Jersey standards were more stringent than those of New York. "No action should be taken in New York that in any way jeopardizes the opportunity for a neighboring state to achieve their air quality goals."⁸² New Jersey had a real interest in the effects the Astoria project would have on New Jersey air quality, but lacked any role in the decision-making process. Only EPA had broad enough jurisdiction to consider the total region, although its formal powers were limited to recommendations.

When the decision-making body lacks authority to control the implementation of regulations, there is an impetus toward reconciliation

with the positions of the other actors. The City decision was clearly such a case; by cutting the proposed Astoria expansion in half, the Mayor tried to resolve the conflicting recommendations of federal and State regulatory agencies through compromise.

The 1973 Fuel Crisis

During the 1973 fuel shortage, similar problems were encountered which continued to produce jurisdictional overlap and discoordinate positions. Environmental and power regulatory agencies again came into conflict over how the City would deal with the fuel shortage that Con Edison was experiencing. Although the City was responsible for implementing the SIP as it applied to City air quality laws and regulations, City procedures incorporated in Local Law 49 for variances differed from state regulations and were more stringent. Although CEPA was designated as a local agent of the State, the City claimed its jurisdiction was separate from the State.⁸³ When the City and State drafted their separate decisions, they were surprised by the differences between them.⁸⁴ An agreement with the City stipulated that the stricter rule would always apply.⁸⁵

Specific provisions for variances from the air code (Local Law 49) differing from DEC regulations (Section 226 of NYCRR) were: (1) while the State had no restrictions on the length of time for a variance, the City could legally grant a minimum six-month variance; and (2) DEC could grant a variance based on economic hardship while the City was limited to "undue hardship" conditions. DEC adopted the CEPA position after

the March 1974 hearings, when Con Edison's application was based primarily on economic factors, that is, when it argued that its consumers were being subjected to unnecessarily high costs for low-sulfur fuel.

The November 1973, decisions by CEPA, DEC, and EPA granted Con Edison variances with dissimilar provisions for the use of coal and high-sulfur oil. The CEPA decision gave Con Edison a six-month variance to burn 3 million barrels of non-conforming oil with a sulfur content of $\frac{3}{4}\%$. It prohibited the burning of any coal at Arthur Kill #3 and Ravenswood #3. The DEC exception to the SIP gave Con Edison permission to burn an unlimited amount of 1. $\frac{5}{8}\%$ sulfur content oil for a period of one year and to burn 300,000 tons of coal (equal to 1.8 $\frac{5}{8}\%$ sulfur content oil) at Arthur Kill #3 and Ravenswood #3. EPA opinion allowed coal only at Arthur Kill #3.

CEPA was disappointed by the DEC action permitting the use of coal. CEPA disagreed with both the EPA and DEC opinions that air quality standards would be met after all. DEC had been under pressure by the PSC certification of the unavailability of conforming fuel. If DEC had denied an exception to the SIP and electric power shortages resulted, DEC would have been held responsible on the State level. DEC could not disprove the PSC finding, and so had enjoyed little discretion in reaching its decision. Since the City had no certification of insufficiency regulations, CEPA had one less constraint to consider, and thus more maneuverability.

After the November 1973 decisions, the City felt pressured by other governmental agencies as well as by Con Edison to change its decisions.

EPA advised the City that its permission to allow coal at Arthur Kill #3 depended upon the City's going along with it.⁸⁶ Meanwhile, Con Edison said it would begin conversion to coal at Arthur Kill #3 even without permission from the City.⁸⁷

In each of the decisions made by the environmental agencies, some kind of enforcement procedure was provided for. If all were implemented it would have required duplicating the monitoring of emissions and types of fuel used by Con Edison - a waste of scarce resources. As it happened, certain provisions, such as the monitoring of conservation efforts, were not policed by any agency whatsoever!⁸⁸

Con Edison continually used its influence at higher levels of government to change City and State decisions. Con Edison went directly to EPA headquarters and FEO to complain that EPA Region II had denied it coal at Ravenswood #3 and that they would soon run out of oil.

Lack of federal direction also weakened the City's position. Not only did DEC and EPA pressure CEPA to allow coal, but Con Edison and the oil companies complained they were having increasing difficulties obtaining oil. FEO was besieged by City and environmental groups pleading for the allocation of low-sulfur fuel for New York City - without much success. Without a definite commitment from FEO that it would allocate oil to the City, CEPA was forced to allow coal. The City hoped that FEO would soon ban coal for Con Edison facilities when it published its list of plants which would be allowed to convert to coal. Although EPA could oppose the use of coal at a specific plant, FEO was still in a position to force conversion to coal by holding

back on oil allocations, and EPA had no power whatsoever regarding the distribution of oil. For a time, EPA and FEO had policies which were in direct conflict with each other.

Another area of potential conflict between the two federal agencies was in adhering to the 1970 Clean Air Act. The proposed Emergency Petroleum Allocation Act did not mandate that low-sulfur fuel would be allocated to the Northeast area, a policy which FEO had not yet supported. Although the Emergency Petroleum Allocation Act did state that FEO had an obligation to conform to the Clean Air Act, environmentalists were skeptical.

Unclear lines of responsibility, jurisdictional overlap, and multiple decision-making centers thus resulted in conflicting policies. These conditions made it more difficult for each individual environmental agency to fulfill its mandated responsibility. Conflict was resolved in competitive bargaining situations which compromised agency standards and goals.

Proposition 7: Multiple authorities trying to control the decision-making process may provide occasions for innovation; crisis situations may create opportunities to innovate by broadening the scope of the issue and by adding new resources and participants.

"The innovative decision arises from a willingness to accommodate some internal and external pressure incompatible with a central element or organizational character or from a drive to deflect such a demand and

preserve the status quo."⁸⁹ Innovation during crisis situations does not usually provide for extensive policy changes, nor for modification of routinized patterns of agencies dealing with their constituencies. However, the very constraints of a crisis situation may temporarily provide the opportunity for innovative behavior after the crisis subsides. Innovative behavior, which may be thought of as the generation and implementation of new ideas, processes, and products or services,⁹⁰ may be an unanticipated by-product of decision-making under crisis conditions. The public attention that a crisis creates often encourages young administrative agencies to assume an aggressive role in the aftermath.

The Astoria Controversy

As a young agency, CEPA took on a crusading aura during the Astoria controversy, a characteristic usually associated with "young, open, nontraditional agencies."⁹¹ The first major issue confronting the young CEPA was the Astoria expansion proposal. What the staff lacked in expertise and experience it compensated for with zeal, determination, and the self-confidence with which to take on a challenge. Mayor Lindsay gave CEPA enough freedom to develop a sense of independence. Environmentalism was an issue he supported, and therefore CEPA was prepared to use all available resources if it were determined that Con Edison's proposal had a detrimental environmental impact.

Although Con Edison did not have a good public image because of widespread complaints about its service, no governmental body had ever

forced Con Edison to justify its actions or even to supply a comprehensive analysis for any of its programs. PSC granted Con Edison rate increases based on Con Edison's own analysis of the problem. PSC never included environmental concerns in the determination of rates. In the Astoria controversy, CEPA hoped to force Con Edison to be more responsive to environmental matters and to transform environmental concerns into an element of the decision-making process where decisions regarding power and energy were concerned. To this end CEPA used every possible resource to push the debate into the public arena, thus removing debate from the private agendas of City Hall and Con Edison.

Virtually overnight, CEPA staffers had to become educated in the fields of electric power generation and energy policy. Organizational lines were not fixed, and staff within CEPA were transferred from department to department within CEPA whenever they were needed. For example, Administrator Kretchmer drafted program analysts from the Sanitation Department to help formulate policy. The Legal Office handled much of the communication with Con Edison. Working closely and pooling their information, the investigation and research done by CEPA staffers became the basis of the Minority Report of ICGU, which was forwarded to the Mayor. Even after the Mayor made his decision, continued interest in the problem led to a more detailed study on the environmental consequences of power plants. "Toward a Rational Power Policy: Reconciling Needs for Energy and Environmental Protection" was submitted to ICGU in April 1971. Its authors were Neil Fabricant and Robert Hallman,

both legal counsels in CEPA. They attempted to broaden the issues which were generated by the Astoria conflict. Page 12 of the report summarizes their recommendations: (1) formulation of a rational energy and environmental plan for the State by a 15-member Temporary State Commission on Energy Needs, the Public Interest, and the Environment; (2) representation by environmental, health and community interests on any electric plant siting commission; (3) prohibition of continued encouragement of electric use; (4) encouragement of more utility funds for research and development; and (5) greater enforcement of pollution control standards.

Crisis situations often result in the creation of new authoritative bodies. Realizing that the City, lacking a governmental body to evaluate the Astoria proposal, was in a difficult position, Mayor Lindsay established the Interdepartmental Committee on Public Utilities (ICPU) in 1969. In May 1970 it was formally asked to make a written report on the Astoria problem. ICPU was headed by the Municipal Services (MSA) Administrator and included the Corporation Counsel, the Deputy Mayor, and Administrators of the CEPA, the Economic Development Administration, and the Department of Consumer Affairs. The initial meetings of ICPU generated much argument among its members. Its final report gave approval to the Astoria proposal, leaving environmentalists in the minority of a 3-to-2 decision. The tremendous pressure brought about by CEPA led the Mayor to then open the issue to public debate, before he made his final decision.

The original 1970 Memorandum of Understanding with Con Edison, embodied in the Mayor's August 22, 1970 decision, designated ICPU as a permanent

body responsible to the Mayor. Its primary objective was to oversee the implementation of the Memorandum. In succeeding months ICFU tried to broaden its mandate by making itself the only City body concerned with public utilities and fuel supplies. It subsequently hired an expert on utilities, Dr. Charles Lawrence, as a consultant to provide technical analysis. ICFU annual reports analyzed the City fuel situation and the impact of national fuel policies upon the City. It advocated the federal allocation of low-sulfur fuel to cities anticipating shortages in the low-sulfur market. Subsequent reports were concerned with Con Edison's ability to meet electric consumer demand in New York City and their progress in purchasing power, increasing transmission capability and conserving power.

Unless it is perceived that new ideas will be adopted, they will not be generated. For a brief time, CEPA was able to focus the attention of the public on the environment. As a result of the City's being thrust into a decision-making situation in the fields of power and its environmental impact, the City acquired a measure of competence to deal with such problems and enabled CEPA to focus the debate on larger questions such as slowing down the growth rate for electric power. CEPA (1) questioned the present electric rate structure which encouraged greater usage, (2) suggested alternatives such as taxing inefficient electric appliances, and (3) established a relationship with the Power Authority of the State of New York (PASNY) for purchasing power on a regular basis and for allocating greater resources to pollution control research. CEPA made the environment a salient issue.

The continued interest of CEPA in these areas left a residue of expertise when the issue of sulfur variances arose in 1973.

The 1973 Fuel Crisis

Although one positive result of the Astoria controversy was that it produced experience in environmental and electric power problems within CEPA, the City still lacked an effective arm for dealing with Con Edison. Lacking a crisis situation, CEPA did not undertake comprehensive analysis of the problems of fuel supply or of Con Edison's procedures. Neither did any other City agency take up the question of limiting the environmental effect of continued power growth. Without the pressure of an important issue, the City shifted its attention from the electric power/environment question.

In the fall of 1973, MSA set up a board to deal with fuel supply problems, primarily in the area of distribution within the City. The narrow perspective of the board led to underestimation of the consequences of a major fuel shortage. Dr. Charles Lawrence of MSA dealt primarily with problems of electric power distribution and the efficient use of electricity, (i.e., in air conditioners and the construction of buildings). However, no City agency developed any form of general plan to maintain environmental safeguards for the City should a fuel shortage occur. The City had neither an energy policy for crisis situations nor proposals for broader objectives, including questions of electric power demand and continued growth.

CEPA became immediately concerned with the issue of the fuel shortage

in the fall of 1973 because it was specifically asked to grant a variance to Local Law 49 at the request of Con Edison. The process of evaluating the application and deciding whether lower-polluting oil was in such short supply that it necessitated the use of coal and high-sulfur oil required an intensive educational effort for CEPA staff members who were unfamiliar with variance procedures. This close-knit group of decision-makers consisted largely of CEPA people who had been trying to gather data about general energy supplies since late October 1973. The members of the Emergency Energy Supply Task Force, as it was soon named, met almost daily and were in close communication with each other. CEPA Administrator Herb Elish was particularly dependent upon these staffers because of the complex technical issues involved. Their duties included monitoring, on a continuing basis, all deliveries of non-conforming oil to the City, and the establishment of future needs for the City and for Con Edison specifically. They reported weekly to the Mayor on the availability of fuel and estimated needs; they were required to notify the Mayor when needs exceeded supply. They were also responsible for providing information to the Administrator when requests for variances to Local Law 49 were made in order to maintain adequate fuel supplies.⁹²

The experience gained by CEPA staffers enabled the City in subsequent variance hearings in March 1974, to more effectively analyze Con Edison's fuel supply situation. Those who had been concerned with Con Edison in prior months had now developed a skeptical attitude toward the utility and lobbied for reforms entailing more oversight procedures over Con Edison.

In order to internalize policy conflict in the new Beame administration, Administrator Elish proposed early in January 1974 that a special Energy Office be established headed by a Deputy Mayor and a special assistant acting as an energy coordinator with a separate staff. Elish recognized that the City was forced to make concessions in the approval of variances because of insufficient information, and should another fuel shortage occur and similar pressure be applied, reforms in administrative procedure would be helpful. Elish suggested that the new Energy Office have (1) a liaison with FED to encourage mandatory allocations of fuel, (2) a liaison with DEC and EPA to coordinate variances and monitor Con Edison supplies, (3) a section to deal with contingency planning, (4) a legal section to advise on the drafting of variances and to formulate responses to proposed regulations and legislation, (5) a section devoted to acquiring information on sources of supplies, shipment, production, and price, and (6) a liaison with the New York City Congressional delegation. Elish also proposed that seminars be conducted by John Lichtblau of the Petroleum Research Foundation, providing information to the office and improving the City's ability to deal with oil companies. MSA Administrator John Carroll forwarded a similar recommendation to Mayor Beame, emphasizing that the head of the Energy Office should have direct access to the Mayor's Office and substantial authority in the City. He suggested appointing a Technical Director who would develop plans for coordinating inspections to oversee the illegal use of non-conforming fuel, review proposed statutes and rules for the impact of such fuel on energy supplies, and

advise on the subject of reducing energy consumption. He also proposed that the legal section advise when variances were required, and that a Public Information Office be established to inform the public of the extent of an energy crisis and the steps being taken to minimize it.⁹³

The new Energy Office really never got off the ground. It was to be staffed primarily by EPA people, but only a few of them ever moved into their new offices. Other than devising emergency procedures for future energy shortages, no one was clear about the new agency's specific function. The jurisdiction between it and CEPA was never clearly defined, which created problems. Herb Elish, who, as the head of the Energy Office, was directly responsible to the Mayor, was also Commissioner of Sanitation - making him also responsible to the CEPA Administrator! Moreover, the Deputy Director was not highly regarded by CEPA staffers because they felt he was a Beame political appointee, having little interest in or knowledge of energy/environment problems. By the spring of 1974, the Energy Office was phased out and absorbed by CEPA. With the end of the fuel crisis, energy problems became less of an issue, and the need for further bureaucratic reforms became obscured. With a change in City Hall administrations, the list of priorities had changed.

The young, energetic public servants which the Lindsay Administration attracted to City Government championed the goal of making City government responsive to the needs of the community and were idealistic enough to try to operationalize the goals of their own agencies. They lacked the sense of rapport developed by older agencies which have learned how to deal with those that they regulate and consequently did not fear damage

to old friendships or loyalties. These administrative reforms had only superficial impact. Not all innovative attempts can sustain momentum after the saliency of the issue declines. If bureaucratic changes are not routinized before the crisis is resolved, political pressures may force reallocation of resources to meet other extingencies.

CHAPTER VI

FOOTNOTES

¹ Roger W. Cobb and Charles D. Elder, Participation in America Politics: The Dynamics of Agenda Building, (Boston: Allyn and Beacon, Inc., 1972), p. 26.

² Letter from Con Edison Vice-President, Louis Roddis, to IGPU Chairman, Milton Musicus, June 12, 1970.

³ Con Edison Testimony, November 25, 1973, and Interview with Charles Komanoff, CEPA staff, December 29, 1975.

⁴ Testimony by Peter Freudenthal, Con Edison, March 11, 1974.

⁵ Testimony of John Sontowski, Assistant Director of the Bureau of Technical Services, DAR, March 11, 1974.

⁶ Interview with Charles Komanoff, December 19, 1975.

⁷ Testimony by Bertram Schwartz, Vice-President, Con Edison, March 11, 1974.

⁸ Freudenthal affidavit in response to questions at hearings, March 14, 1974.

⁹ Letter from Gerald Hansler, Regional Administrator, EPA, to Charles Luce, Con Edison, January 15, 1974.

¹⁰ Interview with Al Riesman, Regional Air Pollution Control Engineer, DEC, December 2, 1975.

¹¹ Ruth Mack, Planning on Uncertainty, (New York: John Wiley), 1971, p. 5.

¹² Letter from Charles Luce, Con Edison, to Mayor John Lindsay, July 22, 1969.

- ¹³ Daniel Henning, "Environmental Policy and Politics: Value and Power Context," in Daniel Henning and Albert Utton (Editors), Environmental Policy, (New York: Praeger, 1973), p. 49.
- ¹⁴ Aaron Wildavsky, "The Strategic Retreat on Objectives," Policy Analysis, (Summer 1976) II, Number 3, p. 515.
- ¹⁵ Aaron Wildavsky, Statement at Seminar, CUNY Graduate Center, October 18, 1977.
- ¹⁶ Wall Street Journal, August 21, 1970.
- ¹⁷ Letter from Jerome Kretchmer, CEPA Administrator, to Mayor John Lindsay, July 24, 1970.
- ¹⁸ Toward a Rational Policy, CEPA op. cit., p. 8.
- ¹⁹ Interview with Sally Streiter, CEPA, September 15, 1975.
- ²⁰ Letter from Eric Outwater, Deputy Regional Administrator, EPA, to Harry Woodbury, Vice-President, Con Edison, January 22, 1974.
- ²¹ Interview with Jim Marshall, Director of Public Information, February 12, 1976.
- ²² EPA Action Memo, March 25, 1974.
- ²³ New York Times, September 12, 1973.
- ²⁴ New York Times, March 22, 1974.
- ²⁵ John A. Straayer and Roy L. Meek (Editors), "The Iron Law of Environmental Disorder," The Politics of Neglect, (Boston: Houghton Mifflin, 1971).
- ²⁶ Murray Edelman, The Symbolic Uses of Power, (Chicago: University of Illinois Press, 1964) p. 38.
- ²⁷ Ibid., p. 39.
- ²⁸ Ibid., p. 27.

²⁹Letter from Charles Luce, Con Edison, to Mayor John Lindsay, July 22, 1969.

³⁰New York Times, August 10, 1970.

³¹Letter from John Nassikas, Chairman, FPC, to Mayor John Lindsay, August 14, 1970.

³²Report by Harold L. Colbeth, Acting Director, PSC Electric Division, August 18, 1970.

³³Statement of Mayor John Lindsay, August 22, 1970.

³⁴Hearings before the Army Corps of Engineers, March 24, 1972.

³⁵Interview with Neil Fabricant, Counsel, EPA, September 25, 1975, and conversation with Bertram Schwartz, Vice-President, Con Edison, April 21, 1975.

³⁶Colbeth Report, op. cit.

³⁷"Environmental Impact of Con Edison Expansion of Astoria #6 - Comments on Draft of Impact Statement Prepared by U.S. Army Corps of Engineers, New York District," Bureau of Technical Services, DAR, July 26, 1973.

³⁸Roddis Letter, June 12, 1970.

³⁹Statement of Con Edison, Army Corps of Engineers Hearings, March 24, 1972.

⁴⁰Testimony of Roger Starr, Executive Director, Citizens Housing and Planning Council of New York, Army Corps of Engineers Hearings, March 24, 1972.

⁴¹Testimony of Mr. Sternbeck, Executive Vice-President of New York Chamber of Commerce, Army Corps Hearings, March 24, 1972.

⁴²Testimony of Roger Starr, op. cit.

⁴³Testimony of Con Edison at the Army Corps Hearings, March 24, 1972.

- ⁴⁴ Statement of Harry Woodbury, Con Edison, on the New York State Implementation Plan for the Metropolitan New York Area Quality Control Region, February 16, 1972.
- ⁴⁵ Press Release, Testimony of Charles Luce at the City Council Committee on Environmental Protection, March 8, 1972.
- ⁴⁶ Letter from Charles Luce, Con Edison, to Mayor John Lindsay, July 22, 1969.
- ⁴⁷ Ibid.
- ⁴⁸ Roddis letter, June 12, 1970.
- ⁴⁹ Letter from Austin Heller, CEPA, to Mayor John Lindsay, October 1, 1969.
- ⁵⁰ Ibid.
- ⁵¹ Letter from Charles Luce, Con Edison, to Mayor Lindsay, July 22, 1969.
- ⁵² Ibid.
- ⁵³ Joint Hearings of CEPA, PSC and DEC, April 28, 1971.
- ⁵⁴ Interview with Casimir Czarkowski, Engineer DEC, April 28, 1971.
- ⁵⁵ Interview with Robert Rickles, DAR Commissioner, October 8, 1975.
- ⁵⁶ Letter from Louis Roddis, Vice-President, Con Edison to Milton Musicus, June 12, 1970.
- ⁵⁷ Con Edison application for a variance to the City Air Code, October 25, 1973.
- ⁵⁸ Con Edison press release, March 12, 1974.
- ⁵⁹ Letter from Vice-President Harry Woodbury, Con Edison, to Commissioner Biganne, Chairman Swidler and Administrator Low, March 21, 1974.
- ⁶⁰ Statement by Charles Luce, Con Edison, March 12, 1974.

- ⁶¹Con Edison press release, March 14, 1974.
- ⁶²Letter from Harry Woodbury, Vice-President, Con Edison to Herb Elish, CEPA Administrator, October 25, 1973.
- ⁶³Letter from Charles Luce, Con Edison to Henry Diamond, DEC, Commissioner and Joseph Swidler, PSC Chairman, October 25, 1973.
- ⁶⁴Ibid.
- ⁶⁵Letter from Charles Luce, Con Edison, to Russell Train, EPA Administrator, March 6, 1974.
- ⁶⁶Testimony of Vice-President Bertram Schwartz, Con Edison, Hearings, March 14, 1974.
- ⁶⁷Letter from Vice-President Harry Woodbury, Con Edison, to DEC Commissioner Biaganne, PSC Chairman Swidler, and CEPA Administrator Low, March 21, 1974.
- ⁶⁸Speech of Chairman Joseph Swidler, PSC, before the National Conference on the Clean Air Act, Chapel Hill, N.C., November 1, 1973.
- ⁶⁹Interview with Jeff Cohen, Citizen's for Clean Air, September 15, 1975.
- ⁷⁰New York Times, November 12, 1973.
- ⁷¹Interview with Marcy Benstock, Clean Air Campaign, Inc., April 7, 1975.
- ⁷²Statement by Eric Outwater, Deputy Regional Administrator, EPA, December 13, 1973.
- ⁷³Testimony of Edward Ferrand, Bureau of Technical Resources, DAR, November 12, 1973.
- ⁷⁴EPA Action Memo, March 23, 1974.
- ⁷⁵Speech by Russell Train, Administrator, EPA, before the Edison Electric Institute, EPA Seminar, Washington, D.C., December 3, 1973.
- ⁷⁶Theodore Lowi, The End of Liberalism, (New York: W. W. Norton, 1969), Chapter 7.

77 Dennis W. Ducsik (Editor), Power, Pollution and Public Policy, M.I.T. Student Systems Project, (Cambridge: M.I.T. Press, 1970), p. 18.

78 Report of the ICPU on the Expansion of Astoria, August 1, 1970, p. 2.

79 Ibid., p. 2.

80 "Expansion of Consolidated Edison's Astoria Plant--New York City," Memo to Files, August 3, 1970, by William Magonnell, NAPCA, Public Health Service, HEW.

81 Ibid.

82 Letter from Donald Walters, Director, Division of Abatement, NAPCA, to Ken Johnson, Director NAPCA, Region II, July 17, 1970.

83 Interview with Sally Streiter, September 22, 1975.

84 Ibid.

85 New York Post, November 27, 1973.

86 New York Post, December 13, 1973.

87 New York Times, December 14, 1973.

88 Memo from Larry Certoff and Cheryl Trench, CEPA, to Administrator Robert Low, CEPA

89 William Gore, Administrative Decision-Making, (New York: John Wiley, 1964), p. 141.

90 Victor Thompson, Bureaucracy and Innovation, (Alabama: University of Alabama Press, 1969), p. 5.

91 Randall B. Ripley, "Policy-Making: A Conceptual Scheme," American Politics Quarterly, I, No. 1 (January 1973) p. 22.

92 Mayor John Lindsay Press Release, November 10, 1973.

93 Memo from John Carroll, MSA Administrator, to Mayor Abraham Beame, January 17, 1974.

CHAPTER VII

CONCLUSION

Focusing on the process of decision-making has provided the empirical basis for analyzing factors which limit political choices. The hypothesis of this study is that the type of decision-making occurring in a problematic situation not only affects the mode of conflict resolution, but the range of possible outcomes. The conflict between Con Edison and New York City concerning the environmental impact of electric power production may be viewed as one illustration of the generally inadequate response made by the public sector to environmental/energy problems.

In the two cases studied, incrementalism characterizes the decisional events. The seven propositions developed in Chapter VI suggest the influence of variables that are characteristic of an incremental decision system upon the authority of governmental actors and their relationships with the private sector under crisis conditions. These propositions highlight the tenuous position of authoritative actors confronted with private sector participants with clear and precise goals and superior resources. The structure of American government and politics limited the bargaining resources of the governmental actors. This structure, together with ambiguities and conflicts of values in energy-environment issues and with crisis-related time pressures, determined city decision-making strategy well to the "incremental" end of the spectrum. Incrementalism weakened the influence of the city, giving Con Edison decided advantages because of the lack of clear definitions of the scope of the problem, and intended goals,

identification of suitable alternatives, and ongoing analyses and evaluation of current policies and programs.

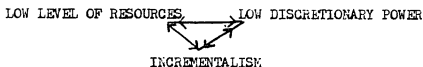
Features of incrementalism - such as resolving conflict resolution through partisan mutual adjustment (bargaining), small moves made at the margin, serial moves, and the overlapping functions of multiple decision-making centers, intensify conflict among hierarchical levels of government and across agency lines. Incompatible decisions made by different government authorities are reconciled or tolerated. Long-term goals are sacrificed for more immediate political and bureaucratic needs.

Tendencies to incrementalism produced by the governmental structure are reinforced by the characteristics of environmental/energy issues. Because the technical level is unstable, requiring continual adjustments, and the public sector often lacks relevant information and technical competence, conservative action by local decision-makers is a favored strategy. Conflicts of both fact and value between energy and environmental goals heighten this effect.

Incremental decision-making has become more than an administrative procedure for decision-makers. It has been elevated to an accepted philosophy of twentieth century American government.¹ It is accepted because it is widely practiced. Breaking problems down into small manageable terms, however, precludes examination of their systemic origins. Incrementalism has thus shifted from being a behavioral description of decision-making techniques to a normative prescription of decision-making strategy for democratic government.

The first four propositions which compare levels of resources among actors illustrate the reinforcing nature of these factors. As the lack of control of information and the pressure generated by crisis situations limit the power of governmental actors, their impact on policy outcomes is diminished. Thus, the greater the crisis pressure the greater the value of available information becomes. If that information is controlled by the private sector, authoritative discretionary power and choice of options are limited.

Lacking long-term objectives, the government tends to act with ambivalence and in response to crisis situations through compromise with the private sector. Such compromises are unlikely to induce major change in a problem area. The public sector's comparatively low level of resources is maintained because of the inability of fragmented government authority to intervene in a crisis without the support of outside groups. These mutually reinforcing tendencies perpetuate the recurrence of crisis because the systemic roots of environment/energy conflicts are neglected. An incremental decisional strategy thus reinforces the characteristics of crisis decision-making.



Observing decision-making styles on a continuum from rational-comprehensive to incremental we find that incrementalism has been characteristic of environmental energy issues in New York City. The outcomes of conflict have demonstrated the inability of the City to resolve these issues in other than a superficial

or symbolic manner. It is suggested that solutions to environment/energy problems might be better handled by encompassing some of the attributes of the rational-comprehensive model, i.e., development of independent resources and planning activities.

"Bad" outcomes are not necessarily the result of conspiratorial persons, but the result of interests operating within a political subsystem able to fulfill their goals at the expense of other interests, which have fewer resources. Current decision-making in environment/energy problems reflects the configuration of local political power, where private actors (i.e., banks, business organizations, corporations, and developers) have an immediate stake in a governmental action which can be exploited by these actors as a public interest. Lacking a comprehensive perspective on environment/energy interactions, local decision-makers are subject to a myriad of pressures from groups able to express their specific interests with convincing thrust. Challenges to environmental values are made by groups using such concepts as economic growth, employment, and inflationary costs as justification for their views.

For example, in New York City, providing jobs and increasing corporate business and manufacturing activity is a major priority. In the eagerness to meet these objectives, little attention is given to the effect on the health of the City's residents that relaxation of environmental regulations can have.

The problem for local government is that institutional mechanisms do not exist for intervening in the cycle of energy/environmental crises.

New York City was unable to offer alternative solutions which would have provided adequate electric supplies with minimal environmental impact. Increasing the information resources of public authorities by establishing a permanent City body with sufficient expertise to monitor Con Edison activities - emphasizing scanning, analytic, and planning techniques - would increase the City's capability to enter the decisional process at a stage prior to the appearance of crisis and when the range of alternatives is minimal. Moreover, increasing the level of public input encouraged by public review of Con Edison plans, projections, and current operations would enlarge the sphere of conflict. Local community groups (i.e., Community Boards) have no effective access to Con Edison on issues that concern them. Communication between communities, their local legislators, and City officials could provide a source of support when needed by the City. If the public sector is to have an increasingly important role in decision-making in energy/environmental matters, changes will have to occur to increase the level of resources of authoritative actors to equalize their relationship with the private sector and to reform the tendency of decision-makers to deal with problems from a myopic perspective.

Much of the literature on policy-making and reform focuses on change. The impetus for change and its direction still remain undefined. The task now becomes one of defining desired goals and the means for achieving those ends. The political determination of priorities in a democracy, remains a critical problem.

The conflict between Con Edison and New York City concerning

environmental impact raises a number of questions. How much public scrutiny is appropriate when the private sector is largely responsible for an important public function such as the production of electricity? Should building of higher stacks to disperse pollution from electric power plants be regarded as an acceptable solution to pollution, or should efforts be made to seek less polluting methods of production, or even changes in the demand for electric power? The search for answers may suggest new administrative procedures placing the planning functions of utilities under closer public control.

To meet the problem of breaking open the private, insulated decision-making characteristic of Con Edison, either (1) legitimized competing groups could be developed to counterbalance the power Con Edison exerts in the political arena, or (2) government might be equipped to become a genuine protector of the public interest. The first alternative would allow public interest groups greater access to the decision-making arena through continual consultation and inclusion in the decisional process, thus establishing a more competitive atmosphere. The second alternative would change the role of the government from a neutral regulator of competing interests to an active participant. This presupposes some coherent definition of public interest. It would legitimize governmental scrutiny over the private sector when a significant public function is at stake. The ultimate shift in this direction would be some form of public ownership of Con Edison - a policy which would enjoy support not only from those concerned about Con Edison mismanagement and high electric rates, but environmental hazards as well.

Proposals such as public ownership of Con Edison which would hopefully operate in the public interest require enormous sums of capital. Although electric rates may decrease somewhat, efficiencies of production are not guaranteed and ways must still be found to include the environment as a legitimate concern. Nevertheless, as public dissatisfaction with Con Edison increases, greater interest may be taken in this alternative.

Genuine competition between government and private utilities might encourage private utilities to reduce rates through greater efficiencies. It has been shown that where competition exists, rates are lower.³ In the spirit of competition, Westchester County Executive Alfred Del Bello, suggested that the county purchase its electricity from New England utilities or the Power Authority of the State of New York. Such proposals may initiate reforms by private utilities wishing to avoid greater regulation or loss of markets.

The private sphere has also taken initiatives. Con Edison and the other six investor-owned utilities in New York State, have proposed a major reorganization which would ease their financial burdens and allow for meeting projected demands for electricity. Under consideration by the current legislature is the proposal to establish the Empire State Power Resources Inc. (ESPRI) which would jointly build new plants, their rates being regulated by the federal government not the PSC. Funds would be raised through contributions from the utilities and the issuance of long-term bonds which would have a guaranteed cost pass-along to consumers. The proposal has forced the legislature to consider the problems of private versus public ownership at a time when the voters are concerned about their electric bills.

Beyond the question of public ownership of Con Edison, some more moderate suggestions may be offered to minimize the environmental impact of electric power generation. Presently, the City has no regulatory function over Con Edison whatsoever. The only way this can be changed is for the State PSC to delegate some of its responsibility to a City agency or to include representatives from the City in its procedures when actions concerning Con Edison are being considered.

Proposal 1

Since Con Edison still advocates the burning of coal and high-sulfur fuel in its system, the City might consider the formation of a permanent department within the Environmental Protection Administration similar to the Emergency Energy Supply Task Force, but with a broader mission. Such a department would have a permanent staff with expertise in electric power generation, including at least an economist, an environmentalist, and an energy specialist. This department would work closely with the Department of Air Resources to ensure that Con Edison was conforming to current Air Code regulations through on-site inspections of plants and continual monitoring of stack emissions. The department would also monitor current fuel market conditions, with special emphasis on price and supply, as well as keep an inventory of Con Edison supplies. The department would review plans submitted by Con Edison designed to meet emergency conditions if fuel supplies were interrupted. It would then impose penalties if equipment failed to meet performance standards. Finally, the department would also approve emergency procedures for

equipment failure.

Proposal 2

A more comprehensive arrangement that included most of the above functions would involve (1) the formation of a planning board with Con Edison representation (including its Environmental and Fuel Supply Departments) and (2) equal representation from the City. City representatives could be appointed by the Mayor with the approval of representatives from environmental and health groups and local legislators (i.e., councilmen or State senators) ensuring that the members chosen represented different communities of the City. The Chairmanship of the Board might be rotated or might be a permanent non-Board member acceptable to both Con Edison and the City. Members of the Board would be experts in problems of electric power generation and/or related environmental problems. All Board members must have access to Con Edison files and records. All long-range plans submitted to PSC would be first reviewed by the Board, as well as projections for meeting anticipated demand, the building of new facilities, integration with other electric power systems, and any agreements to which Con Edison was a party which would increase the utility's demand load. The emphasis would be on improving current production methods, committing funds, participating in the development of alternative sources of fuel purchase and power generation, and actively participating in all Con Edison decisions beyond internal corporate policy and financial ones.

Proposal 1 retains the present Con Edison-New York City relationship

and has the advantage of keeping the City in an adversary position. Support from environmental groups could be maintained providing a means for active citizen participation. The City would be able to increase its level of resources to lessen the tendency toward crisis decision-making. In Proposal 2 the joint Board or Commission would be independent of current regulatory agencies. Working directly with Con Edison through the planning phases, it is at least theoretically possible that the City's involvement would increase. Conflict between the City and Con Edison could be reduced and the City would have a permanent role in all decisions involving electric power generation, i.e., environmental impact, electric rates, service to customers, and management efficiency.

Under any reforms federal intervention would aid the city. In addition to local institutional reforms, federal policies such as allocating low-sulfur fuels to metropolitan regions during periods of shortage would relieve the City of potential pollution hazards. Not enough information is available on the long-range impact of fossil fuel combustion, which might be the focus at future federally funded research projects.

The thrust of these reforms emphasize public scrutiny, expanded decision-making procedures, tighter regulation where possible, greater public involvement, and an increasing role by the City in decisions involving the way electric power is produced. Although such changes suggest the barest skeletal reforms, they offer some direction toward which those concerned with environmental/energy conflicts might gravitate. The objectives of such changes are to increase the number of participants

and the alternatives open to government decision-makers. Public involvement in planning and decision-making, would discourage symbolic action while increasing the level of resources of the City and equalize the public and private sector.

Although the conflict between Con Edison and New York City was of a localized nature, it highlights a basic feature of energy/environment conflict in American politics, i.e., that a common will is produced out of the interaction of many discrete wills in the political arena. Because there is no overall integrative mechanism directed toward a recognizable goal, such outcomes in the political arena may produce results unwanted by the community as a whole. "What we really have is a congeries of unintegrated and competitive subsystems pursuing conflicting ends - a non-system."²

Clearly, the response of political institutions that resolve energy/environment conflicts has been inadequate. Any contemplated reform must reflect the values presently neglected in considering the interaction of discrete wills within the political process. To resolve differences where energy and environmental values are predominant, resources in the public sector must match the complexity and urgency of environment/energy problems.

CHAPTER VII

FOOTNOTES

1. Ophuls, William, Ecology and the Politics of Scarcity (San Francisco: W. H. Freeman), 1977, p. 193.

2. Ibid., p. 188.

3. Richard Hillman, Government Competition in the Electric Utility Industry (New York: Praeger, 1972), p. 70.

BIBLIOGRAPHY

BOOKS AND PERIODICALS

- Allison, Graham T. "Conceptual Models and the Cuban Missile Crisis," American Political Science Review, No. 3, pp. 689-718.
- Agger, Robert E. and Goldrich, Daniel. The Rulers and the Ruled. California: Duxbury Press, 1972.
- Altshuller, Alan A. The Politics of the Federal Bureaucracy. New York: Dodd, Mead, and Co., 1968.
- Anderson, Walt (ed). Politics and Environment. California: Goodyear Publishing Co., 1970.
- Baumol, William J. The Theory of Environmental Policy. Englewood Cliffs, New Jersey, 1975.
- Bachrach, Peter, and Baratz, Morton. Power and Poverty. New York: Oxford University Press, 1970.
- Bauer, Raymond, and Gergen, Kenneth. The Study of Policy Formulation. New York: Free Press, 1968.
- Bentley, Arthur. The Process of Government. Chicago: University of Chicago Press, 1908.
- Boguslaw, Robert. The New Utopians. Englewood Cliffs, New Jersey: Prentice Hall, 1965.
- Brenner, Michael. The Political Economy of America's Environmental Dilemma. Massachusetts: Lexington Books, 1973.
- Bross, Irwin. Design for Decision. New York: MacMillan, 1953.
- Burch, William (ed). Social Behavior, Natural Resources and the Environment. New York: Harper and Row, 1972.
- Caldwell, Lynton. "Environmental Quality as an Administrative Problem," Annals of the American Academy of Political and Social Science, COCC, (November 1972), pp. 103-115.

- Caldwell, Lynton (ed). Environmental Studies: Papers on the Politics and Public Administration of Man-Environment Relationships, Institute of Public Administration. Bloomington, Indiana: Indiana University Press, 1967.
- Caldwell, Lynton. A Challenge to Modern Society. New York: Doubleday, 1971.
- _____. In Defence of Earth: International Protection of the Biosphere. Bloomington, Indiana: Indiana University Press, 1972.
- Cobb, Roger W., and Elder, Charles D. Participants in American Politics: The Dynamics of Agenda Building. Boston: Allyn and Beacon, Inc., 1972.
- Council on Economic Priorities. The Price of Power: Electric Utilities and the Environment. Cambridge: M.I.T. Press, 1973.
- Commoner, Barry. Alternate Approaches to Environmental Crisis. American Institute of Planners Journal, Vol. 39, 1973.
- Cooley, R. A. Congress and the Environment. Washington: University of Washington Press, 1970.
- Crain, R. L. Politics of Community Conflict: The Flouridation Decision. Indianapolis: Bobbs-Merrill, 1969.
- Crenson, Matthew. The Un-Politics of Air Pollution. Baltimore: John Hopkins Press, 1971.
- Dahl, Robert. A Preface to Democratic Theory. Englewood Cliffs, New Jersey, 1965.
- _____. Modern Political Analysis. Englewood Cliffs, New Jersey: Prentice-Hall, 1970.
- Davies, J. Clarence. The Politics of Pollution. New York: Pegasus, 1970.
- Dole, S. H., and Papetti, R. A. Environmental Factors in the Production and Use of Energy. Rand Corporation, 1973.
- Dorfman, Robert, and Dorfman, Nancy (eds). Economics of the Environment. New York: W. W. Norton, 1972.
- Downing, Paul B. (ed). Air Pollution and the Social Sciences. New York: Praeger, 1971.

- Dror, Yehezkel. Public Policy Reexamined. San Francisco: Chandler Pub., 1968.
- Ducsik, Dennis W. (ed). Power, Pollution and Public Policy. Cambridge: M.I.T. Press, 1970.
- Dworsky, Leonard B. Pollution. New York: Chelsea House Pub., 1971.
- Policy Memorandum Number 37. Ecology and Politics in America's Environmental Crisis. Princeton: Center of International Studies, 1970.
- Edel, Matthew. Economics and the Environment. Englewood Cliffs, New Jersey: Prentice-Hall, 1973.
- Edelman, Murray. The Symbolic Uses of Politics. Urbana, Illinois: University of Illinois Press, 1964.
- Energy, Economic Growth and the Environment, Resources for the Future. Washington, April 1971.
- Enloe, Cynthia H. The Politics of Pollution in a Comparative Perspective. New York: David McKay, 1975.
- Esposito, John. Vanishing Air. New York: Grossman, 1970.
- Etzioni, Amitai. The Active Society: A Theory of Societal and Political Processes. New York: Free Press, 1968.
- Ewald, William. Environment and Change and Environment and Policy. Bloomington, Indiana: Indiana University Press, 1968.
- Fabricant, Neil and Hallman, Robert Marshall. Toward a Rational Power Policy. New York: G. Braziller, 1971.
- Farris, Martin T., and Sampson, Roy J. Public Utilities: Regulation, Management, and Ownership. Boston: Houghton Mifflin, 1973.
- Freedman, Anne Kolker, and Cohen, Jeffrey C. The Environmental Impact of Supplying Power to the Con Edison Service Territory: 1975-1980. New York: Citizens for Clean Air, August 1975.
- Freeman, A., Haveman, Robert and Kneese, Allen. The Economics of Environmental Policy. New York: J. Wiley, 1973.
- Friedman, David S., Electric Power and the Environment, Energy Policy Staff, Office of Science and Technology, G.P.O., August 1970.
- Garney, Morris, and Hebbs, James (eds). Social Science and the Environment. Boulder: University of Colorado Press, 1967.

- Garvey, Gerald. "Environmentalism Versus Energy Development: The Background to Environmental Administration" Public Administration No. 2, August 1975, pp. 323-332.
- _____. Energy, Ecology, Economy. New York: W. W. Norton, 1972.
- Goldman, Marshall I. Ecology and Economics: Controlling Pollution in the 1970's. Englewood Cliffs, New Jersey: Prentice-Hall, 1972.
- Gordon, Kermit, (ed). Agenda for the Nation. Washington, D.C.: Brookings Institute, 1968.
- Gore, William J and Dyson, J. W. The Making of Decisions. New York: Free Press, 1964.
- Grad, Frank. Environmental Control: Priorities, Policies and Law. New York: Matthew Bender & Co., 1971.
- Hage, Jerald and Riken, Michael. Social Change in Complex Organizations. New York: Random House, 1970.
- Hagevik, George H. Decision-Making in Air Pollution Control. New York: Praeger, 1970.
- Hardin, Garrett. "The Tragedy of the Commons," Science, CLXII, December 13, 1968.
- Harte, John and Socolow, Robert H. (eds). Patient Earth. New York: Holt Rinehart and Winston, 1971.
- Haskell, Elizabeth H. and Price, Victoria S. State-Environmental Management. New York: Praeger, 1973.
- Healy, Timothy. Energy, Electric Power and Man. San Francisco: Boyd and Frazer, 1974.
- Heilbroner, Robert. An Inquiry into the Human Prospect. New York: Norton, 1974.
- Helfrich, Harold (ed). Agenda for Survival. New Haven, Connecticut: Yale University Press, 1971.
- Hellman, Richard. Government Competition in the Electric Utility Industry. New York: Praeger, 1972.
- Hibbard, Benjamin Horace. History of the Public Land Policies. Madison, Wisconsin: University of Wisconsin, 1924.

- House, William. "Rational Decision-Making Under Conditions of Risk." Southern Journal of Business, No. II, (January 1967), pp. 31-40.
- Hurley, William D. Environmental Legislation. Springfield, Illinois: Charles C. Thomas, 1971.
- Huxley, Aldous. The Doors of Perception. London: Chatto and Windus, 1960.
- Jaffe, Louis L., and Tribe, Laurence H. Environmental Protection. Chicago: Praeger Press, 1971.
- Jarret, Henry, (ed). Perspectives on Conservation. Baltimore, Maryland: John Hopkins Press, 1958.
- Jones, Charles, C. Clean Air: The Policies and Politics of Pollution Control. Pittsburgh, Pennsylvania: University of Pittsburgh, 1975.
- _____. "Speculative Augmentation in Federal Pollution Policy Making," Journal of Politics, XXXVI, No. 2, (May 1974). pp. 438-464.
- _____. An Introduction to the Study of Public Policy. Belmont, California: Wadsworth Publishing, 1970.
- Journal of Air Pollution Control. (Diverse Issues).
- Kariel, Henry. The Decline of American Pluralism. Stanford, California: University of California Press, 1961.
- Kaufman, Irving R. "Power for the People." New York University Law Review XLVI, (November 1971), pp. 867-878.
- Kohlmeier, Louis M. The Regulators. New York: Harper and Row, 1969.
- Latham, Earl. The Group Basis of Politics. Ithaca, New York: Cornell Press, 1952.
- Lahtey, John and Edmunds, Stahrl. Environmental Administration. New York: McGraw Hill, 1973.
- Levin, M. Community Planning: Issues in Public Policy. New York: 1969.
- Leventhal, Harold. "Environmental Decision-Making and the Role of the Courts." University of Pennsylvania Law Review, CXXII (January 1974) pp. 509-555.
- Lindblom, Charles. Intelligence of Democracy. New York: Free Press, 1965.

- _____. and Braybrooke, David. A Strategy of Decision. New York: Free Press, 1963.
- Linton, Ron M. Terrace. New York: Paperback Library, 1970.
- Lowi, Theodore. The End of Liberalism. New York: W. W. Norton, 1969.
- Lundquist, Lennart. Do Political Structures Matter in Environmental Politics. Paper delivered at International Political Science Association, World Congress, Montreal, August 1973.
- Luxenberg, Stan. "Who's Enforcing Air Pollution Laws in New York?" New England, (April 1975), pp. 42-45.
- McConnell, Grant. Private Power and American Democracy. New York: Random House, 1966.
- McClellan, Grant S. Protecting Our Environment. New York: H. W. Wilson, 1970.
- Meek, Ray L., and Straayer, John A. The Politics of Neglect. New York: Houghton Mifflin, 1971.
- Mack, Ruth. Planning on Uncertainty. New York: J. Wiley, 1971.
- Mansfield, Harvey C. A Short History of CIA. Office of Temporary Controls, (Washington: G.F.C.), 1947.
- Metcalf, Lee and Reinemer, Victor. Overcharge. New York: McKay, 1967.
- Milbraith, Lester and Inscho, Frederick R. The Environmental Problem as a Political Problem: An Agenda of Environmental Concerns for Political Scientists. Paper delivered at International Political Science Association World Congress, Montreal, August 1973.
- Miller, Edwin S. Economic Analysis of Environmental Problems. New York: Columbia University Press, 1975.
- Murdoch, William (ed). Environment-Resources, Pollution and Society. Stamford, Connecticut: Sinauer Association, 1975.
- Nagel, Stuart (ed). Environmental Politics. New York: Praeger, 1974.
- _____. Incentives for Compliance with Environmental Law. Paper delivered at International Political Science Association World Congress, Montreal, August 1973.
- New York Association of the Bar, Electricity and the Environment. St. Paul: Minnesota: West Publishing Co., 1972.

- Newfield, Jack and DuBrul, Paul. The Abuse of Power. New York: Viking Press, 1977.
- Nicolson, Max. The Big Change. New York: McGraw Hill, 1973.
- Niebuhr, Reinhold. Moral Man and Immoral Society. New York: Scribner and Sons, 1960.
- Odum, Howard T. Environment, Power and Society. New York: J. Wiley, 1971.
- O'Hanlon, Thomas. "Con Ed: The Company You Love to Hate, Fortune, 1966.
- Ophuls, William. Prologue to a Political Theory of the Steady State: Investigation of the Political and Philosophical Implications of the Environmental Crisis. Dissertation, Yale University, 1973.
- Oppenheimer, Jack and Miller, Leonard A. "Environmental Problems and Legislative Responses. Annals of the American Academy of Political and Social Sciences, CCCLXXXIX, (May 1970), pp. 78-86.
- Ostrom, Vincent. "Human Fallibility, Political Theory and the Environment." Policy Studies Journal, (Summer 1973), pp. 205-208.
- Faulsen, David F. and Denhardt, Robert B. Pollution and Public Policy. New York: Dodd, Mead, 1973.
- Perloff, Harvey S. The Quality of the Urban Environment. Washington: Resources for the Future, Inc., 1969.
- Peterson, Phyllis. Con Edison (B). Papers of Harvard Business School, 1974.
- Petroleum Industry Research Foundation, Inc. The East Coast Residual Fuel Oil Market - A Forecast to 1977. June 1972.
- Pollution Control: Perspectives on the Government Role. The Tax Foundation, Inc., New York, 1971.
- The Power Industry and the Public Interest. New York: Twentieth Century Fund, 1974.
- Public Utilities Fortnightly (Diverse Issues).
- Prisendorf, Anthony. "Con Ed: The Arrogance of Power," Nation CCIV (March 27, 1967), pp. 401-404.
- Regional Energy Consumption, A Joint Study by the Regional Plan Association, Resources for the Future, 1974.

- Rehfuess, John. Public Administration as a Political Process. New York: Charles Scribner's & Sons, 1973.
- Revelle, Roger and Landsberg, Hans. America's Changing Environment. Boston: Houghton Mifflin, 1970.
- Rickles, Robert and New York Board of Trade (eds). Energy in the City Environment. New York: Noyes Press, 1973.
- Ridgeway, James. The Politics of Ecology. New York: E. P. Dutton, 1970.
- Ridker, R. G. Economic Costs of Air Pollution, Studies and Measurement. New York: Praeger, 1967.
- Roberts, Marc. "Is there an Energy Crisis," Public Interest XXXI, (September 1973), pp. 17-37.
- Roos, Leslie, Jr. Politics of Ecosuicide. New York: Holt, Rinehart and Winston, 1971.
- _____. Studying Environmental Policy-Search for a Methodology. Paper prepared for International Political Science Association, World Congress, Montreal, Canada, 1973.
- Rosenbaum, Walter A. The Politics of Environmental Concern. New York: Praeger, 1973.
- Ruedisili, Lon C. Perspectives on Energy and Environment: Issues, Ideals and Environmental Dilemmas. New Jersey: Oxford University Press, 1975.
- Schacter, Esther Rodetti. Enforcing Air Pollution Controls. New York: Praeger, 1974.
- Saltonstall, Richard and Page, James Jr. Brown-Out and Slow-Down. New York: Walker & Co., 1972.
- _____. Your Environment and What you Can Do About It: A Citizen's Guide. New York: Walker, 1970.
- Sayre, Wallace and Kaufman, Murray. Governing New York City. New York: W. W. Norton, 1960.
- Sax, John R. Defending the Environment: A Strategy for Social Action. New York: Knopf, 1971.
- Schattschneider, E. E. The Semi-Sovereign People. New York: Holt, Rinehart and Winston, 1960.

- Scott, David L. Pollution in the Electric Power Industry. Lexington, Massachusetts: Lexington Books, 1973.
- _____. The Economics of Environmental Pollution: The Case of the Electric Power Industry. Lexington, Massachusetts: Lexington Books, 1973.
- Seale, Robert L. and Sierka, Raymond A. (eds). Energy Needs and the Environment. Tuscon, Arizona: University of Arizona Press, 1973.
- Shepherd, William and Gies, T. G. (eds). Utility Regulation. New York: Random House, 1966.
- Simon, Herbert. Models of Man. New York: J. Wiley, 1957.
- Stern, Arthur. Air Pollution. New York: Academic Press, 1968.
- Talbot, Alan. Power Along the Hudson: The Storm King Case and the Birth of Environmentalism. New York: Dalton, 1972.
- Thompson, Dennis L. (ed). Politics, Policy and Natural Resources. New York: Free Press, 1971.
- Thompson, James. Organization in Action. New York: McGraw Hill, 1967.
- Thompson, Victor A. Decision Theory, Pure and Applied. New Jersey: General Learning Press, 1971.
- _____. Bureaucracy and Innovation. Alabama: University of Alabama Press, 1971.
- _____. Modern Organization. New York: Knopf, 1961.
- Transition Papers, I, Fund for the City of New York, 1974.
- Truman, David. The Governmental Process. New York: Knopf, 1951.
- Utton, Albert, and Henning, Daniel H. (eds). Environmental Policy. New York: Praeger, 1973.
- Vennard, Edwin. The Electric Power Business. New York: McGraw Hill, 1970.
- _____. Government in the Power Business. New York: McGraw Hill, 1968.
- Wade, Larry. Elements of Public Policy. Ohio: Charles E. Merrill, 1972.
- Ways, Max. "How to Think About the Environment." Fortune LXXXI, no. 3, (February 1970), pp. 98-101.

- Wandesford-Smith, Geoffrey. "The Bureaucratic Response to Environmental Politics." Natural Resources Journal XI, No. 3 (July 1971), pp. 479-488.
- Welfrich, Harold W. (ed). Environmental Crisis. New Haven, Connecticut: Yale University Press, 1970.
- Wengert, Norman. Natural Resources and Political Struggle. New York: Random House, 1955.
- Wilbrich, Mason. "Electric Facilities Siting." Virginia Law Review LVIII, (February 1972), pp. 257-334.
- Wildavsky, Aaron. "Aesthetic Power or the Triumph of the Sensitive Minority over the Vulgar Mass: A Political Analysis of the New Economics," Daedalus 96, (Fall 1967), pp. 1115-1129.
- _____. The Politics of the Budgetary Process. Boston, Massachusetts: Little, Brown & Co., 1964.
- _____. "The Strategic Retreat on Objectives," Policy Analysis, II, No. 3, (Summer 1976).
- Wolff, Robert Paul. The Poverty of Liberalism. Boston, Massachusetts: Beacon, 1968.
- Molozin, H. The Economics of Air Pollution. New York: W. W. Norton, 1966.
- Worster, Donald (ed). American Environmentalism 1860-1915. New York: J. Wiley, 1973.
- Young, Louise B. Power Over People. New Jersey: Oxford University Press, 1973.
- Zeigler, Harmon. Interest Groups in American Society. Englewood Cliffs, New Jersey, Prentice-Hall, 1964.
- Zurhorst, Charles. The Conservation Fraud. New York: Cowles Book Co., 1970.

REPORTS

- Electric Power and the Environment, Energy Policy Staff, Office of Science and Technology, G.P.O. Washington, August 1970.
- United States Presidential Science Advisory Committee, Restoring the Quality of our Environment, White House, Washington, November 1965.

Bureau of Technical Resources, Department of Air Resources, No. 4,
Major Point Sources, 1972.

_____. Data Report, Aerometric Network, 1970 thru 1974.

Con Edison Edison Monthly Report on Generation and Transmission, Public Service
Commission Case 25293, December 31, 1970.

_____. Environmental Report, Astoria #6, January 1972.

Comments on Ft. 410, Chapter IV, Title 42, Code of Federal Regulations
by the New York Department of Environmental Conservation.

First Annual Report of the Mayor's Interdepartmental Committee on Public
Utilities, City of New York, 1971.

Second Annual Report of the Mayor's Interdepartmental Committee on Public
Utilities, City of New York, 1972.

First Annual Report of the Council on Environmental Quality, Washington,
D.C., August 1970.

Ingram, Hollis, J. A Study of Thermal Pollution Abatement Methods,
Division of Air Resources, New York State Department of Health,
March 1, 1961.

_____. New York State Air Pollution Control Cost Study, Division of Air
Resources, New York State Department of Health, February 1961.

Majority Report. Interdepartmental Committee on Public Utilities,
July 31, 1970.

Minority Report, Interdepartmental Committee on Public Utilities,
July 31, 1970.

New York City's Power Supply Development and Resources Corp., October
28, 1969.

2nd Session, House of Representatives, Reorganization Plan No. 3, No.
110364, December 1970.

GOVERNMENT DOCUMENTS

U.S. Congress, U.S. House Committee of Science and Astronautics, Sub-
committee on Science, Research and Development, Environmental Quality,
90th Congress, 2nd Session, January-March 1968.

- U.S. Congress, U.S. Joint Committee on Atomic Energy, Environmental Effects of Producing Electric Power, 91st Congress, 1st Session, 1969.
- U. S. Congress, U. S. House, Committee on Merchant Marine and Fisheries, Report to Accompany H. R. 12549, 91st Congress, 1969.
- U. S. Congress, U. S. House, Committee on Interstate and Foreign Commerce, Subcommittee on Communications and Power, Hearings on Power Plant Siting and the Environment, 91st Congress, 1st and 2nd Sessions, 1969, 1970.
- U.S. Congress, U. S. Senate, Committee on Commerce, Subcommittee on Energy, Natural Resources and Environment, Hearings on Report Covering the Principle Policy Questions Now Facing the Environmental Protection Agency, 91st Congress, 2nd Session, 1970.
- U.S. Congress, Joint Economic Committee, The Economy, Energy and Environment, Environmental Policy Division of the Legislative Reference Service, 91st Congress, 2nd Session, September 1, 1970.
- U.S. Congress, How Can Our Physical Environment Best be Controlled and Developed? Document No. 91-66, Legislative Reference Service, Washington, D.C. 91st Congress, 1970.
- U.S. Congress, U.S. House, Committee on Interstate and Foreign Commerce, Bills Relating to Power Plant Siting, 91st Congress, 1st Session, 1971.
- U.S. Congress, U. S. Senate, Committee on Interior and Insular Affairs, Reorderings in Economic Growth in Relation to Population and Economic Growth, Prepared by the Environmental Policy Division, 92nd Congress, 1971.
- U.S. Congress, U.S. Senate, Committee on Interior and Insular Affairs, Hearings on New Technology of the Environment Acceptable to the Generation of Electricity, 92nd Congress, February 8, 1972.
- U.S. Congress, U.S. Senate, Committee on Commerce, Subcommittee on the Environment, Energy and Environmental Objectives, Document No. 93-68, Part 1, Washington, D.C., 93rd Congress, 2nd Session.
- U.S. Federal Power Commission, National Power Survey Task Force on the Environment, 1971.
- U.S. Congress, U.S. Senate, Hearings before the Committee on Interior and Insular Affairs, Financial Problems of the Electric Utilities, 93rd Congress, August 7 and 8, 1974,